



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 215940 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215940 has 135 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Glexan\_100
- Track 2 : Murica\_104, Bruin\_98, Miniwave\_96, Mosby\_97, YassJohnny\_98, Sassay\_96, MPhalcon\_102, Youngblood\_104, Terminus\_104, Contagion\_97, MISSy\_102, Willez\_96
- Track 3 : Lilizi\_102, Stark\_102, Bench\_104, ChosenOne\_101, Thresher\_103, Lilac\_103, OrionPax\_100, AmericanBeauty\_105, Elph10\_101, Filch\_103
- Track 4 : JeTaime\_100, Moldemort\_104, Ukulele\_96, HanKaySha\_102, Highbury\_98, Amao\_101, ShereKhan\_99, Mindy\_100, ChotaBhai\_101, Quallification\_102, Cookies\_98, DoctorDiddles\_100, Maxxinista\_103, Cactus\_105, Inca\_98, FairyPath\_101, Sotrice96\_102, Goldilocks\_104, StellaBean\_100, BadStone\_98, Czystczon1\_102, Asriel\_99, Saints25\_98, Xandras\_100, MadamMonkfish\_101, Palpatine\_102, Kimchi\_105, Simpliphy\_100, Traaww1\_97
- Track 5 : Lilpickle\_100, Murphy\_101, BigBubba\_101, Dumbo\_101, BugsBunny\_100, Phrux\_98
- Track 6 : Petra64142\_105, Emmina\_101, BilboSwaggins\_100, Buck\_102, Stank\_103, CrystalP\_100, NelitzaMV\_98, Wiggin\_103, Easy2Say\_101, Gemini\_106, Argent26\_105, TBrady12\_104, Thimble\_103, Holt\_106, Toto\_99, GooberAzure\_104, Rakim\_102
- Track 7 : Hopey\_102, Cjw1\_102, Elite2014\_100, 244\_102
- Track 8 : DrDrey\_101, Nala\_103, Pat3\_98, Pharsalus\_98, Dusk\_98, SirDuracell\_101, Bask21\_101, Tarkin\_100, PhatBacter\_104, Kostya\_101, Barbarian\_100, FireRed\_104, ABCat\_98, Tuco\_102, Kanye\_98, HufflyPuff\_103, Goku\_100, Eureka\_100, Flypotenuse\_97
- Track 9 : ShamWow\_101, StormChicken\_102, Adnama\_105, Henry\_98
- Track 10 : RiverMonster\_101, Tomaszewski\_96, Nimrod\_101, Gator\_99, Balomoji\_101
- Track 11 : IHOP\_99
- Track 12 : Teaspoon\_102, BaboJay\_101, Porky\_100
- Track 13 : Misfit\_102, Becksu\_99, Manda\_102, xkcd\_104, Paperbeatsrock\_100, lcee\_102, Command613\_103, FoghornLeghorn\_94, Myrale\_101
- Track 14 : StolenFromERC\_103, Gage\_103
- Track 15 : Marshmallow\_98
- Track 16 : Harella\_101, Rimmer\_99
- Track 17 : Phaux\_103
- Track 18 : GoldenSpark\_105, Policronamos\_103, Daikon\_101
- Track 19 : Hoonter\_104
- Track 20 : SophKB\_99

- Track 21 : Phaja\_99
- Track 22 : TeardropMSU\_97
- Track 23 : Pumpkin\_103
- Track 24 : NoSleep\_102

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

The start number called the most often in the published annotations is 6, it was called in 67 of the 125 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amao\_101, AmericanBeauty\_105, Argent26\_105, Asriel\_99, BaboJay\_101, BadStone\_98, Becksu\_99, Bench\_104, BilboSwaggins\_100, Buck\_102, Cactus\_105, ChosenOne\_101, ChotaBhai\_101, Command613\_103, Cookies\_98, CrystalP\_100, Czyszczon1\_102, DoctorDiddles\_100, Easy2Say\_101, Elph10\_101, Emmina\_101, FairyPath\_101, Filch\_103, FoghornLeghorn\_94, Gage\_103, Gemini\_106, Goldilocks\_104, GooberAzure\_104, HanKaySha\_102, Harella\_101, Highbury\_98, Holt\_106, Hoonter\_104, Icee\_102, Inca\_98, JeTaime\_100, Kimchi\_105, Lilac\_103, Lilizi\_102, MadamMonkfish\_101, Manda\_102, Maxxinista\_103, Mindy\_100, Misfit\_102, Moldemort\_104, Myrale\_101, NelitzaMV\_98, NoSleep\_102, OrionPax\_100, Palpatine\_102, Paperbeatsrock\_100, Petra64142\_105, Porky\_100, Quallification\_102, Rakim\_102, Rimmer\_99, Saints25\_98, ShereKhan\_99, Simpliphy\_100, Sotrice96\_102, Stank\_103, Stark\_102, StellaBean\_100, StolenFromERC\_103, TBrady12\_104, Teaspoon\_102, Thimble\_103, Thresher\_103, Toto\_99, Traaww1\_97, Ukulele\_96, Wiggin\_103, Xandras\_100, xkcd\_104,

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

- 244\_102, ABCat\_98, Adnama\_105, Balomoji\_101, Barbarian\_100, Bask21\_101, BigBubba\_101, Bruin\_98, BugsBunny\_100, Cjw1\_102, Contagion\_97, Daikon\_101, DrDrey\_101, Dumbo\_101, Dusk\_98, Elite2014\_100, Eureka\_100, FireRed\_104, Flypotenuse\_97, Gator\_99, Glexan\_100, Goku\_100, GoldenSpark\_105, Henry\_98, Hopey\_102, HuffyPuff\_103, IHOP\_99, Kanye\_98, Kostya\_101, Lilpickle\_100, MISSy\_102, MPhalcon\_102, Marshmallow\_98, Miniwave\_96, Mosby\_97, Murica\_104, Murphy\_101, Nala\_103, Nimrod\_101, Pat3\_98, Phaja\_99, Pharsalus\_98, PhatBacter\_104, Phaux\_103, Phrux\_98, Policronamos\_103, Pumpkin\_103, RiverMonster\_101, Sassay\_96, ShamWow\_101, SirDuracell\_101, SophKB\_99, StormChicken\_102, Tarkin\_100, TeardropMSU\_97, Terminus\_104, Tomaszewski\_96, Tuco\_102, Willez\_96, YassJohnny\_98, Youngblood\_104,

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

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**Summary by start number:**

Start 2:

- Found in 110 of 135 ( 81.5% ) of genes in pham
- Manual Annotations of this start: 6 of 125
- Called 5.5% of time when present
- Phage (with cluster) where this start called: Balomoji\_101 (E), Gator\_99 (E), Marshmallow\_98 (E), Nimrod\_101 (E), RiverMonster\_101 (E), Tomaszewski\_96 (E),

Start 4:

- Found in 135 of 135 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 8 of 125
- Called 5.9% of time when present
- Phage (with cluster) where this start called: 244\_102 (E), Cjw1\_102 (E), Elite2014\_100 (E), Glexan\_100 (E), Hopey\_102 (E), Phaux\_103 (E), Pumpkin\_103 (E), TeardropMSU\_97 (E),

Start 5:

- Found in 135 of 135 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 40 of 125
- Called 31.1% of time when present
- Phage (with cluster) where this start called: ABCat\_98 (E), Adnama\_105 (E), Barbarian\_100 (E), Bask21\_101 (E), BigBubba\_101 (E), Bruin\_98 (E), BugsBunny\_100 (E), Contagion\_97 (E), DrDrey\_101 (E), Dumbo\_101 (E), Dusk\_98 (E), Eureka\_100 (E), FireRed\_104 (E), Flypotenuse\_97 (E), Goku\_100 (E), Henry\_98 (E), HufflyPuff\_103 (E), Kanye\_98 (E), Kostya\_101 (E), Lilpickle\_100 (E), MISSy\_102 (E), MPhalcon\_102 (E), Miniwave\_96 (E), Mosby\_97 (E), Murica\_104 (E), Murphy\_101 (E), Nala\_103 (E), Pat3\_98 (E), Pharsalus\_98 (E), PhatBacter\_104 (E), Phrux\_98 (E), Sassay\_96 (E), ShamWow\_101 (E), SirDuracell\_101 (E), SophKB\_99 (E), StormChicken\_102 (E), Tarkin\_100 (E), Terminus\_104 (E), Tuco\_102 (E), Willez\_96 (E), YassJohnny\_98 (E), Youngblood\_104 (E),

Start 6:

- Found in 135 of 135 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 67 of 125
- Called 54.8% of time when present
- Phage (with cluster) where this start called: Amao\_101 (E), AmericanBeauty\_105 (E), Argent26\_105 (E), Asriel\_99 (E), BaboJay\_101 (E), BadStone\_98 (E), Becksu\_99 (E), Bench\_104 (E), BilboSwaggins\_100 (E), Buck\_102 (E), Cactus\_105 (E), ChosenOne\_101 (E), ChotaBhai\_101 (E), Command613\_103 (E), Cookies\_98 (E), CrystalP\_100 (E), Czystczon1\_102 (E), DoctorDiddles\_100 (E), Easy2Say\_101 (E), Elph10\_101 (E), Emmina\_101 (E), FairyPath\_101 (E), Filch\_103 (E), FoghornLeghorn\_94 (E), Gage\_103 (E), Gemini\_106 (E), Goldilocks\_104 (E), GooberAzure\_104 (E), HanKaySha\_102 (E), Harella\_101 (E), Highbury\_98 (E), Holt\_106 (E), Hoonter\_104 (E), Icee\_102 (E), Inca\_98 (E), JeTaimie\_100 (E), Kimchi\_105 (E), Lilac\_103 (E), Lilizi\_102 (E), MadamMonkfish\_101 (E), Manda\_102 (E), Maxxinsta\_103 (E), Mindy\_100 (E), Misfit\_102 (E), Moldemort\_104 (E), Myrale\_101 (E), NelitzaMV\_98 (E), NoSleep\_102 (E), OrionPax\_100 (E), Palpatine\_102 (E), Paperbeatsrock\_100 (E), Petra64142\_105 (E), Porky\_100 (E), Quallification\_102 (E), Rakim\_102 (E), Rimmer\_99 (E), Saints25\_98 (E), ShereKhan\_99 (E), Simpliphy\_100 (E), Sotrice96\_102 (E), Stank\_103 (E), Stark\_102 (E), StellaBean\_100 (E), StolenFromERC\_103 (E), TBrady12\_104 (E), Teaspoon\_102 (E), Thimble\_103 (E), Thresher\_103 (E), Toto\_99 (E), Traaww1\_97 (E), Ukulele\_96 (E), Wiggin\_103 (E), Xandras\_100 (E), xkcd\_104 (E),

Start 7:

- Found in 135 of 135 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 4 of 125
- Called 3.7% of time when present
- Phage (with cluster) where this start called: Daikon\_101 (E), GoldenSpark\_105 (E), IHOP\_99 (E), Phaja\_99 (E), Policronamos\_103 (E),

## Summary by clusters:

There is one cluster represented in this pham: E

Info for manual annotations of cluster E:

- Start number 2 was manually annotated 6 times for cluster E.
- Start number 4 was manually annotated 8 times for cluster E.
- Start number 5 was manually annotated 40 times for cluster E.
- Start number 6 was manually annotated 67 times for cluster E.
- Start number 7 was manually annotated 4 times for cluster E.

### **Gene Information:**

Gene: 244\_102 Start: 59715, Stop: 60575, Start Num: 4

Candidate Starts for 244\_102:

(Start: 4 @59715 has 8 MA's), (Start: 5 @59769 has 40 MA's), (Start: 6 @59796 has 67 MA's), (Start: 7 @59814 has 4 MA's), (8, 59898), (9, 60066), (10, 60081), (11, 60102), (12, 60138), (13, 60150), (14, 60183), (15, 60267), (16, 60273), (17, 60282), (18, 60294), (19, 60318), (20, 60354), (21, 60408), (22, 60411), (23, 60525), (24, 60558),

Gene: ABCat\_98 Start: 60753, Stop: 61559, Start Num: 5

Candidate Starts for ABCat\_98:

(Start: 2 @60645 has 6 MA's), (Start: 4 @60699 has 8 MA's), (Start: 5 @60753 has 40 MA's), (Start: 6 @60780 has 67 MA's), (Start: 7 @60798 has 4 MA's), (8, 60882), (9, 61050), (10, 61065), (11, 61086), (12, 61122), (13, 61134), (14, 61167), (15, 61251), (16, 61257), (17, 61266), (18, 61278), (19, 61302), (20, 61338), (21, 61392), (22, 61395), (23, 61509), (24, 61542),

Gene: Adnama\_105 Start: 60063, Stop: 60869, Start Num: 5

Candidate Starts for Adnama\_105:

(1, 59877), (Start: 2 @59955 has 6 MA's), (Start: 4 @60009 has 8 MA's), (Start: 5 @60063 has 40 MA's), (Start: 6 @60090 has 67 MA's), (Start: 7 @60108 has 4 MA's), (8, 60192), (9, 60360), (10, 60375), (12, 60432), (13, 60444), (14, 60477), (15, 60561), (16, 60567), (17, 60576), (18, 60588), (19, 60612), (20, 60648), (21, 60702), (22, 60705), (23, 60819), (24, 60852),

Gene: Amao\_101 Start: 60204, Stop: 60983, Start Num: 6

Candidate Starts for Amao\_101:

(Start: 2 @60069 has 6 MA's), (Start: 4 @60123 has 8 MA's), (Start: 5 @60177 has 40 MA's), (Start: 6 @60204 has 67 MA's), (Start: 7 @60222 has 4 MA's), (8, 60306), (9, 60474), (10, 60489), (11, 60510), (12, 60546), (13, 60558), (14, 60591), (15, 60675), (16, 60681), (17, 60690), (18, 60702), (19, 60726), (20, 60762), (21, 60816), (22, 60819), (23, 60933), (24, 60966),

Gene: AmericanBeauty\_105 Start: 60331, Stop: 61110, Start Num: 6

Candidate Starts for AmericanBeauty\_105:

(Start: 4 @60250 has 8 MA's), (Start: 5 @60304 has 40 MA's), (Start: 6 @60331 has 67 MA's), (Start: 7 @60349 has 4 MA's), (8, 60433), (9, 60601), (10, 60616), (11, 60637), (12, 60673), (13, 60685), (14, 60718), (15, 60802), (16, 60808), (17, 60817), (18, 60829), (19, 60853), (20, 60889), (21, 60943), (22, 60946), (23, 61060), (24, 61093),

Gene: Argent26\_105 Start: 60014, Stop: 60793, Start Num: 6

Candidate Starts for Argent26\_105:

(1, 59801), (Start: 2 @59879 has 6 MA's), (Start: 4 @59933 has 8 MA's), (Start: 5 @59987 has 40 MA's), (Start: 6 @60014 has 67 MA's), (Start: 7 @60032 has 4 MA's), (8, 60116), (9, 60284), (10, 60299), (12, 60356), (13, 60368), (14, 60401), (15, 60485), (16, 60491), (17, 60500), (18, 60512), (19, 60536), (20, 60572), (21, 60626), (22, 60629), (23, 60743), (24, 60776),

Gene: Asriel\_99 Start: 58427, Stop: 59206, Start Num: 6

Candidate Starts for Asriel\_99:

(Start: 2 @58292 has 6 MA's), (Start: 4 @58346 has 8 MA's), (Start: 5 @58400 has 40 MA's), (Start: 6 @58427 has 67 MA's), (Start: 7 @58445 has 4 MA's), (8, 58529), (9, 58697), (10, 58712), (11, 58733), (12, 58769), (13, 58781), (14, 58814), (15, 58898), (16, 58904), (17, 58913), (18, 58925), (19, 58949), (20, 58985), (21, 59039), (22, 59042), (23, 59156), (24, 59189),

Gene: BaboJay\_101 Start: 60969, Stop: 61748, Start Num: 6

Candidate Starts for BaboJay\_101:

(Start: 4 @60888 has 8 MA's), (Start: 5 @60942 has 40 MA's), (Start: 6 @60969 has 67 MA's), (Start: 7 @60987 has 4 MA's), (8, 61071), (9, 61239), (10, 61254), (11, 61275), (12, 61311), (13, 61323), (14, 61356), (15, 61440), (16, 61446), (17, 61455), (18, 61467), (19, 61491), (20, 61527), (21, 61581), (22, 61584), (24, 61731),

Gene: BadStone\_98 Start: 60349, Stop: 61128, Start Num: 6

Candidate Starts for BadStone\_98:

(Start: 2 @60214 has 6 MA's), (Start: 4 @60268 has 8 MA's), (Start: 5 @60322 has 40 MA's), (Start: 6 @60349 has 67 MA's), (Start: 7 @60367 has 4 MA's), (8, 60451), (9, 60619), (10, 60634), (11, 60655), (12, 60691), (13, 60703), (14, 60736), (15, 60820), (16, 60826), (17, 60835), (18, 60847), (19, 60871), (20, 60907), (21, 60961), (22, 60964), (23, 61078), (24, 61111),

Gene: Balomoji\_101 Start: 60075, Stop: 60989, Start Num: 2

Candidate Starts for Balomoji\_101:

(Start: 2 @60075 has 6 MA's), (Start: 4 @60129 has 8 MA's), (Start: 5 @60183 has 40 MA's), (Start: 6 @60210 has 67 MA's), (Start: 7 @60228 has 4 MA's), (8, 60312), (9, 60480), (10, 60495), (11, 60516), (12, 60552), (13, 60564), (14, 60597), (15, 60681), (16, 60687), (17, 60696), (18, 60708), (19, 60732), (20, 60768), (21, 60822), (22, 60825), (23, 60939), (24, 60972),

Gene: Barbarian\_100 Start: 58400, Stop: 59206, Start Num: 5

Candidate Starts for Barbarian\_100:

(Start: 2 @58292 has 6 MA's), (Start: 4 @58346 has 8 MA's), (Start: 5 @58400 has 40 MA's), (Start: 6 @58427 has 67 MA's), (Start: 7 @58445 has 4 MA's), (8, 58529), (9, 58697), (10, 58712), (11, 58733), (12, 58769), (13, 58781), (14, 58814), (15, 58898), (16, 58904), (17, 58913), (18, 58925), (19, 58949), (20, 58985), (21, 59039), (22, 59042), (23, 59156), (24, 59189),

Gene: Bask21\_101 Start: 59039, Stop: 59845, Start Num: 5

Candidate Starts for Bask21\_101:

(Start: 2 @58931 has 6 MA's), (Start: 4 @58985 has 8 MA's), (Start: 5 @59039 has 40 MA's), (Start: 6 @59066 has 67 MA's), (Start: 7 @59084 has 4 MA's), (8, 59168), (9, 59336), (10, 59351), (11, 59372), (12, 59408), (13, 59420), (14, 59453), (15, 59537), (16, 59543), (17, 59552), (18, 59564), (19, 59588), (20, 59624), (21, 59678), (22, 59681), (23, 59795), (24, 59828),

Gene: Becksu\_99 Start: 60403, Stop: 61182, Start Num: 6

Candidate Starts for Becksu\_99:

(1, 60190), (Start: 2 @60268 has 6 MA's), (Start: 4 @60322 has 8 MA's), (Start: 5 @60376 has 40 MA's), (Start: 6 @60403 has 67 MA's), (Start: 7 @60421 has 4 MA's), (8, 60505), (9, 60673), (10, 60688), (11, 60709), (12, 60745), (13, 60757), (14, 60790), (15, 60874), (16, 60880), (17, 60889), (18, 60901), (19, 60925), (20, 60961), (21, 61015), (22, 61018), (23, 61132), (24, 61165),

Gene: Bench\_104 Start: 60970, Stop: 61749, Start Num: 6

Candidate Starts for Bench\_104:

(Start: 4 @60889 has 8 MA's), (Start: 5 @60943 has 40 MA's), (Start: 6 @60970 has 67 MA's), (Start: 7 @60988 has 4 MA's), (8, 61072), (9, 61240), (10, 61255), (11, 61276), (12, 61312), (13, 61324), (14, 61357), (15, 61441), (16, 61447), (17, 61456), (18, 61468), (19, 61492), (20, 61528), (21, 61582), (22, 61585), (23, 61699), (24, 61732),

Gene: BigBubba\_101 Start: 59096, Stop: 59902, Start Num: 5

Candidate Starts for BigBubba\_101:

(Start: 4 @59042 has 8 MA's), (Start: 5 @59096 has 40 MA's), (Start: 6 @59123 has 67 MA's), (Start: 7 @59141 has 4 MA's), (8, 59225), (9, 59393), (10, 59408), (11, 59429), (12, 59465), (13, 59477), (14, 59510), (15, 59594), (16, 59600), (17, 59609), (18, 59621), (19, 59645), (20, 59681), (21, 59735), (22, 59738), (23, 59852), (24, 59885),

Gene: BilboSwaggins\_100 Start: 60749, Stop: 61528, Start Num: 6

Candidate Starts for BilboSwaggins\_100:

(1, 60536), (Start: 2 @60614 has 6 MA's), (Start: 4 @60668 has 8 MA's), (Start: 5 @60722 has 40 MA's), (Start: 6 @60749 has 67 MA's), (Start: 7 @60767 has 4 MA's), (8, 60851), (9, 61019), (10, 61034), (12, 61091), (13, 61103), (14, 61136), (15, 61220), (16, 61226), (17, 61235), (18, 61247), (19, 61271), (20, 61307), (21, 61361), (22, 61364), (23, 61478), (24, 61511),

Gene: Bruin\_98 Start: 59428, Stop: 60234, Start Num: 5

Candidate Starts for Bruin\_98:

(1, 59242), (Start: 2 @59320 has 6 MA's), (Start: 4 @59374 has 8 MA's), (Start: 5 @59428 has 40 MA's), (Start: 6 @59455 has 67 MA's), (Start: 7 @59473 has 4 MA's), (8, 59557), (9, 59725), (10, 59740), (11, 59761), (12, 59797), (13, 59809), (14, 59842), (15, 59926), (16, 59932), (17, 59941), (18, 59953), (19, 59977), (20, 60013), (21, 60067), (22, 60070), (23, 60184), (24, 60217),

Gene: Buck\_102 Start: 61292, Stop: 62071, Start Num: 6

Candidate Starts for Buck\_102:

(1, 61079), (Start: 2 @61157 has 6 MA's), (Start: 4 @61211 has 8 MA's), (Start: 5 @61265 has 40 MA's), (Start: 6 @61292 has 67 MA's), (Start: 7 @61310 has 4 MA's), (8, 61394), (9, 61562), (10, 61577), (12, 61634), (13, 61646), (14, 61679), (15, 61763), (16, 61769), (17, 61778), (18, 61790), (19, 61814), (20, 61850), (21, 61904), (22, 61907), (23, 62021), (24, 62054),

Gene: BugsBunny\_100 Start: 60742, Stop: 61548, Start Num: 5

Candidate Starts for BugsBunny\_100:

(Start: 4 @60688 has 8 MA's), (Start: 5 @60742 has 40 MA's), (Start: 6 @60769 has 67 MA's), (Start: 7 @60787 has 4 MA's), (8, 60871), (9, 61039), (10, 61054), (11, 61075), (12, 61111), (13, 61123), (14, 61156), (15, 61240), (16, 61246), (17, 61255), (18, 61267), (19, 61291), (20, 61327), (21, 61381), (22, 61384), (23, 61498), (24, 61531),

Gene: Cactus\_105 Start: 59709, Stop: 60488, Start Num: 6

Candidate Starts for Cactus\_105:

(Start: 2 @59574 has 6 MA's), (Start: 4 @59628 has 8 MA's), (Start: 5 @59682 has 40 MA's), (Start: 6 @59709 has 67 MA's), (Start: 7 @59727 has 4 MA's), (8, 59811), (9, 59979), (10, 59994), (11, 60015), (12, 60051), (13, 60063), (14, 60096), (15, 60180), (16, 60186), (17, 60195), (18, 60207), (19, 60231), (20, 60267), (21, 60321), (22, 60324), (23, 60438), (24, 60471),

Gene: ChosenOne\_101 Start: 59658, Stop: 60437, Start Num: 6

Candidate Starts for ChosenOne\_101:

(Start: 4 @59577 has 8 MA's), (Start: 5 @59631 has 40 MA's), (Start: 6 @59658 has 67 MA's), (Start: 7 @59676 has 4 MA's), (8, 59760), (9, 59928), (10, 59943), (11, 59964), (12, 60000), (13, 60012), (14, 60045), (15, 60129), (16, 60135), (17, 60144), (18, 60156), (19, 60180), (20, 60216), (21, 60270), (22, 60273), (23, 60387), (24, 60420),

Gene: ChotaBhai\_101 Start: 60068, Stop: 60847, Start Num: 6

Candidate Starts for ChotaBhai\_101:

(Start: 2 @59933 has 6 MA's), (Start: 4 @59987 has 8 MA's), (Start: 5 @60041 has 40 MA's), (Start: 6 @60068 has 67 MA's), (Start: 7 @60086 has 4 MA's), (8, 60170), (9, 60338), (10, 60353), (11, 60374), (12, 60410), (13, 60422), (14, 60455), (15, 60539), (16, 60545), (17, 60554), (18, 60566), (19, 60590), (20, 60626), (21, 60680), (22, 60683), (23, 60797), (24, 60830),

Gene: Cjw1\_102 Start: 61582, Stop: 62442, Start Num: 4

Candidate Starts for Cjw1\_102:

(Start: 4 @61582 has 8 MA's), (Start: 5 @61636 has 40 MA's), (Start: 6 @61663 has 67 MA's), (Start: 7 @61681 has 4 MA's), (8, 61765), (9, 61933), (10, 61948), (11, 61969), (12, 62005), (13, 62017), (14, 62050), (15, 62134), (16, 62140), (17, 62149), (18, 62161), (19, 62185), (20, 62221), (21, 62275), (22, 62278), (23, 62392), (24, 62425),

Gene: Command613\_103 Start: 60224, Stop: 61003, Start Num: 6

Candidate Starts for Command613\_103:

(1, 60011), (Start: 2 @60089 has 6 MA's), (Start: 4 @60143 has 8 MA's), (Start: 5 @60197 has 40 MA's), (Start: 6 @60224 has 67 MA's), (Start: 7 @60242 has 4 MA's), (8, 60326), (9, 60494), (10, 60509), (11, 60530), (12, 60566), (13, 60578), (14, 60611), (15, 60695), (16, 60701), (17, 60710), (18, 60722), (19, 60746), (20, 60782), (21, 60836), (22, 60839), (23, 60953), (24, 60986),

Gene: Contagion\_97 Start: 59790, Stop: 60596, Start Num: 5

Candidate Starts for Contagion\_97:

(1, 59604), (Start: 2 @59682 has 6 MA's), (Start: 4 @59736 has 8 MA's), (Start: 5 @59790 has 40 MA's), (Start: 6 @59817 has 67 MA's), (Start: 7 @59835 has 4 MA's), (8, 59919), (9, 60087), (10, 60102), (11, 60123), (12, 60159), (13, 60171), (14, 60204), (15, 60288), (16, 60294), (17, 60303), (18, 60315), (19, 60339), (20, 60375), (21, 60429), (22, 60432), (23, 60546), (24, 60579),

Gene: Cookies\_98 Start: 59994, Stop: 60773, Start Num: 6

Candidate Starts for Cookies\_98:

(Start: 2 @59859 has 6 MA's), (Start: 4 @59913 has 8 MA's), (Start: 5 @59967 has 40 MA's), (Start: 6 @59994 has 67 MA's), (Start: 7 @60012 has 4 MA's), (8, 60096), (9, 60264), (10, 60279), (11, 60300), (12, 60336), (13, 60348), (14, 60381), (15, 60465), (16, 60471), (17, 60480), (18, 60492), (19, 60516), (20, 60552), (21, 60606), (22, 60609), (23, 60723), (24, 60756),

Gene: CrystalP\_100 Start: 60749, Stop: 61528, Start Num: 6

Candidate Starts for CrystalP\_100:

(1, 60536), (Start: 2 @60614 has 6 MA's), (Start: 4 @60668 has 8 MA's), (Start: 5 @60722 has 40 MA's), (Start: 6 @60749 has 67 MA's), (Start: 7 @60767 has 4 MA's), (8, 60851), (9, 61019), (10, 61034), (12, 61091), (13, 61103), (14, 61136), (15, 61220), (16, 61226), (17, 61235), (18, 61247), (19, 61271), (20, 61307), (21, 61361), (22, 61364), (23, 61478), (24, 61511),

Gene: Czyszczone1\_102 Start: 60009, Stop: 60788, Start Num: 6

Candidate Starts for Czyszczone1\_102:

(Start: 2 @59874 has 6 MA's), (Start: 4 @59928 has 8 MA's), (Start: 5 @59982 has 40 MA's), (Start: 6 @60009 has 67 MA's), (Start: 7 @60027 has 4 MA's), (8, 60111), (9, 60279), (10, 60294), (11, 60315), (12, 60351), (13, 60363), (14, 60396), (15, 60480), (16, 60486), (17, 60495), (18, 60507), (19, 60531), (20, 60567), (21, 60621), (22, 60624), (23, 60738), (24, 60771),



Gene: Daikon\_101 Start: 59641, Stop: 60402, Start Num: 7

Candidate Starts for Daikon\_101:

(1, 59410), (Start: 2 @59488 has 6 MA's), (Start: 4 @59542 has 8 MA's), (Start: 5 @59596 has 40 MA's), (Start: 6 @59623 has 67 MA's), (Start: 7 @59641 has 4 MA's), (8, 59725), (9, 59893), (10, 59908), (12, 59965), (13, 59977), (14, 60010), (15, 60094), (16, 60100), (17, 60109), (18, 60121), (19, 60145), (20, 60181), (21, 60235), (22, 60238), (23, 60352), (24, 60385),

Gene: DoctorDiddles\_100 Start: 59472, Stop: 60251, Start Num: 6

Candidate Starts for DoctorDiddles\_100:

(Start: 2 @59337 has 6 MA's), (Start: 4 @59391 has 8 MA's), (Start: 5 @59445 has 40 MA's), (Start: 6 @59472 has 67 MA's), (Start: 7 @59490 has 4 MA's), (8, 59574), (9, 59742), (10, 59757), (11, 59778), (12, 59814), (13, 59826), (14, 59859), (15, 59943), (16, 59949), (17, 59958), (18, 59970), (19, 59994), (20, 60030), (21, 60084), (22, 60087), (23, 60201), (24, 60234),

Gene: DrDrey\_101 Start: 61460, Stop: 62266, Start Num: 5

Candidate Starts for DrDrey\_101:

(Start: 2 @61352 has 6 MA's), (Start: 4 @61406 has 8 MA's), (Start: 5 @61460 has 40 MA's), (Start: 6 @61487 has 67 MA's), (Start: 7 @61505 has 4 MA's), (8, 61589), (9, 61757), (10, 61772), (11, 61793), (12, 61829), (13, 61841), (14, 61874), (15, 61958), (16, 61964), (17, 61973), (18, 61985), (19, 62009), (20, 62045), (21, 62099), (22, 62102), (23, 62216), (24, 62249),

Gene: Dumbo\_101 Start: 60019, Stop: 60825, Start Num: 5

Candidate Starts for Dumbo\_101:

(Start: 4 @59965 has 8 MA's), (Start: 5 @60019 has 40 MA's), (Start: 6 @60046 has 67 MA's), (Start: 7 @60064 has 4 MA's), (8, 60148), (9, 60316), (10, 60331), (11, 60352), (12, 60388), (13, 60400), (14, 60433), (15, 60517), (16, 60523), (17, 60532), (18, 60544), (19, 60568), (20, 60604), (21, 60658), (22, 60661), (23, 60775), (24, 60808),

Gene: Dusk\_98 Start: 59982, Stop: 60788, Start Num: 5

Candidate Starts for Dusk\_98:

(Start: 2 @59874 has 6 MA's), (Start: 4 @59928 has 8 MA's), (Start: 5 @59982 has 40 MA's), (Start: 6 @60009 has 67 MA's), (Start: 7 @60027 has 4 MA's), (8, 60111), (9, 60279), (10, 60294), (11, 60315), (12, 60351), (13, 60363), (14, 60396), (15, 60480), (16, 60486), (17, 60495), (18, 60507), (19, 60531), (20, 60567), (21, 60621), (22, 60624), (23, 60738), (24, 60771),

Gene: Easy2Say\_101 Start: 60481, Stop: 61260, Start Num: 6

Candidate Starts for Easy2Say\_101:

(1, 60268), (Start: 2 @60346 has 6 MA's), (Start: 4 @60400 has 8 MA's), (Start: 5 @60454 has 40 MA's), (Start: 6 @60481 has 67 MA's), (Start: 7 @60499 has 4 MA's), (8, 60583), (9, 60751), (10, 60766), (12, 60823), (13, 60835), (14, 60868), (15, 60952), (16, 60958), (17, 60967), (18, 60979), (19, 61003), (20, 61039), (21, 61093), (22, 61096), (23, 61210), (24, 61243),

Gene: Elite2014\_100 Start: 59576, Stop: 60436, Start Num: 4

Candidate Starts for Elite2014\_100:

(Start: 4 @59576 has 8 MA's), (Start: 5 @59630 has 40 MA's), (Start: 6 @59657 has 67 MA's), (Start: 7 @59675 has 4 MA's), (8, 59759), (9, 59927), (10, 59942), (11, 59963), (12, 59999), (13, 60011), (14, 60044), (15, 60128), (16, 60134), (17, 60143), (18, 60155), (19, 60179), (20, 60215), (21, 60269), (22, 60272), (23, 60386), (24, 60419),

Gene: Elph10\_101 Start: 59692, Stop: 60471, Start Num: 6

Candidate Starts for Elph10\_101:

(Start: 4 @59611 has 8 MA's), (Start: 5 @59665 has 40 MA's), (Start: 6 @59692 has 67 MA's), (Start: 7 @59710 has 4 MA's), (8, 59794), (9, 59962), (10, 59977), (11, 59998), (12, 60034), (13, 60046), (14, 60079), (15, 60163), (16, 60169), (17, 60178), (18, 60190), (19, 60214), (20, 60250), (21, 60304), (22, 60307), (23, 60421), (24, 60454),

Gene: Emmina\_101 Start: 59432, Stop: 60211, Start Num: 6

Candidate Starts for Emmina\_101:

(1, 59219), (Start: 2 @59297 has 6 MA's), (Start: 4 @59351 has 8 MA's), (Start: 5 @59405 has 40 MA's), (Start: 6 @59432 has 67 MA's), (Start: 7 @59450 has 4 MA's), (8, 59534), (9, 59702), (10, 59717), (12, 59774), (13, 59786), (14, 59819), (15, 59903), (16, 59909), (17, 59918), (18, 59930), (19, 59954), (20, 59990), (21, 60044), (22, 60047), (23, 60161), (24, 60194),

Gene: Eureka\_100 Start: 60593, Stop: 61399, Start Num: 5

Candidate Starts for Eureka\_100:

(Start: 2 @60485 has 6 MA's), (Start: 4 @60539 has 8 MA's), (Start: 5 @60593 has 40 MA's), (Start: 6 @60620 has 67 MA's), (Start: 7 @60638 has 4 MA's), (8, 60722), (9, 60890), (10, 60905), (11, 60926), (12, 60962), (13, 60974), (14, 61007), (15, 61091), (16, 61097), (17, 61106), (18, 61118), (19, 61142), (20, 61178), (21, 61232), (22, 61235), (23, 61349), (24, 61382),

Gene: FairyPath\_101 Start: 60925, Stop: 61704, Start Num: 6

Candidate Starts for FairyPath\_101:

(Start: 2 @60790 has 6 MA's), (Start: 4 @60844 has 8 MA's), (Start: 5 @60898 has 40 MA's), (Start: 6 @60925 has 67 MA's), (Start: 7 @60943 has 4 MA's), (8, 61027), (9, 61195), (10, 61210), (11, 61231), (12, 61267), (13, 61279), (14, 61312), (15, 61396), (16, 61402), (17, 61411), (18, 61423), (19, 61447), (20, 61483), (21, 61537), (22, 61540), (23, 61654), (24, 61687),

Gene: Filch\_103 Start: 60005, Stop: 60784, Start Num: 6

Candidate Starts for Filch\_103:

(Start: 4 @59924 has 8 MA's), (Start: 5 @59978 has 40 MA's), (Start: 6 @60005 has 67 MA's), (Start: 7 @60023 has 4 MA's), (8, 60107), (9, 60275), (10, 60290), (11, 60311), (12, 60347), (13, 60359), (14, 60392), (15, 60476), (16, 60482), (17, 60491), (18, 60503), (19, 60527), (20, 60563), (21, 60617), (22, 60620), (23, 60734), (24, 60767),

Gene: FireRed\_104 Start: 60869, Stop: 61675, Start Num: 5

Candidate Starts for FireRed\_104:

(Start: 2 @60761 has 6 MA's), (Start: 4 @60815 has 8 MA's), (Start: 5 @60869 has 40 MA's), (Start: 6 @60896 has 67 MA's), (Start: 7 @60914 has 4 MA's), (8, 60998), (9, 61166), (10, 61181), (11, 61202), (12, 61238), (13, 61250), (14, 61283), (15, 61367), (16, 61373), (17, 61382), (18, 61394), (19, 61418), (20, 61454), (21, 61508), (22, 61511), (23, 61625), (24, 61658),

Gene: Flypotenuse\_97 Start: 59054, Stop: 59860, Start Num: 5

Candidate Starts for Flypotenuse\_97:

(Start: 2 @58946 has 6 MA's), (Start: 4 @59000 has 8 MA's), (Start: 5 @59054 has 40 MA's), (Start: 6 @59081 has 67 MA's), (Start: 7 @59099 has 4 MA's), (8, 59183), (9, 59351), (10, 59366), (11, 59387), (12, 59423), (13, 59435), (14, 59468), (15, 59552), (16, 59558), (17, 59567), (18, 59579), (19, 59603), (20, 59639), (21, 59693), (22, 59696), (23, 59810), (24, 59843),

Gene: FoghornLeghorn\_94 Start: 57786, Stop: 58565, Start Num: 6

Candidate Starts for FoghornLeghorn\_94:

(1, 57573), (Start: 2 @57651 has 6 MA's), (Start: 4 @57705 has 8 MA's), (Start: 5 @57759 has 40 MA's), (Start: 6 @57786 has 67 MA's), (Start: 7 @57804 has 4 MA's), (8, 57888), (9, 58056), (10, 58071), (11, 58092), (12, 58128), (13, 58140), (14, 58173), (15, 58257), (16, 58263), (17, 58272), (18, 58284), (19, 58308), (20, 58344), (21, 58398), (22, 58401), (23, 58515), (24, 58548),

Gene: Gage\_103 Start: 60152, Stop: 60931, Start Num: 6

Candidate Starts for Gage\_103:

(Start: 2 @60017 has 6 MA's), (Start: 4 @60071 has 8 MA's), (Start: 5 @60125 has 40 MA's), (Start: 6 @60152 has 67 MA's), (Start: 7 @60170 has 4 MA's), (8, 60254), (9, 60422), (10, 60437), (11, 60458), (12, 60494), (13, 60506), (14, 60539), (15, 60623), (16, 60629), (17, 60638), (18, 60650), (19, 60674), (20, 60710), (21, 60764), (22, 60767), (24, 60914),

Gene: Gator\_99 Start: 59802, Stop: 60716, Start Num: 2

Candidate Starts for Gator\_99:

(Start: 2 @59802 has 6 MA's), (Start: 4 @59856 has 8 MA's), (Start: 5 @59910 has 40 MA's), (Start: 6 @59937 has 67 MA's), (Start: 7 @59955 has 4 MA's), (8, 60039), (9, 60207), (10, 60222), (11, 60243), (12, 60279), (13, 60291), (14, 60324), (15, 60408), (16, 60414), (17, 60423), (18, 60435), (19, 60459), (20, 60495), (21, 60549), (22, 60552), (23, 60666), (24, 60699),

Gene: Gemini\_106 Start: 60531, Stop: 61310, Start Num: 6

Candidate Starts for Gemini\_106:

(1, 60318), (Start: 2 @60396 has 6 MA's), (Start: 4 @60450 has 8 MA's), (Start: 5 @60504 has 40 MA's), (Start: 6 @60531 has 67 MA's), (Start: 7 @60549 has 4 MA's), (8, 60633), (9, 60801), (10, 60816), (12, 60873), (13, 60885), (14, 60918), (15, 61002), (16, 61008), (17, 61017), (18, 61029), (19, 61053), (20, 61089), (21, 61143), (22, 61146), (23, 61260), (24, 61293),

Gene: Glexan\_100 Start: 60130, Stop: 60990, Start Num: 4

Candidate Starts for Glexan\_100:

(Start: 2 @60076 has 6 MA's), (Start: 4 @60130 has 8 MA's), (Start: 5 @60184 has 40 MA's), (Start: 6 @60211 has 67 MA's), (Start: 7 @60229 has 4 MA's), (8, 60313), (9, 60481), (10, 60496), (12, 60553), (13, 60565), (14, 60598), (15, 60682), (16, 60688), (17, 60697), (18, 60709), (19, 60733), (20, 60769), (21, 60823), (22, 60826), (23, 60940), (24, 60973),

Gene: Goku\_100 Start: 60322, Stop: 61128, Start Num: 5

Candidate Starts for Goku\_100:

(Start: 2 @60214 has 6 MA's), (Start: 4 @60268 has 8 MA's), (Start: 5 @60322 has 40 MA's), (Start: 6 @60349 has 67 MA's), (Start: 7 @60367 has 4 MA's), (8, 60451), (9, 60619), (10, 60634), (11, 60655), (12, 60691), (13, 60703), (14, 60736), (15, 60820), (16, 60826), (17, 60835), (18, 60847), (19, 60871), (20, 60907), (21, 60961), (22, 60964), (23, 61078), (24, 61111),

Gene: GoldenSpark\_105 Start: 60032, Stop: 60793, Start Num: 7

Candidate Starts for GoldenSpark\_105:

(1, 59801), (Start: 2 @59879 has 6 MA's), (Start: 4 @59933 has 8 MA's), (Start: 5 @59987 has 40 MA's), (Start: 6 @60014 has 67 MA's), (Start: 7 @60032 has 4 MA's), (8, 60116), (9, 60284), (10, 60299), (12, 60356), (13, 60368), (14, 60401), (15, 60485), (16, 60491), (17, 60500), (18, 60512), (19, 60536), (20, 60572), (21, 60626), (22, 60629), (23, 60743), (24, 60776),

Gene: Goldilocks\_104 Start: 59931, Stop: 60710, Start Num: 6

Candidate Starts for Goldilocks\_104:

(Start: 2 @59796 has 6 MA's), (Start: 4 @59850 has 8 MA's), (Start: 5 @59904 has 40 MA's), (Start: 6 @59931 has 67 MA's), (Start: 7 @59949 has 4 MA's), (8, 60033), (9, 60201), (10, 60216), (11, 60237), (12, 60273), (13, 60285), (14, 60318), (15, 60402), (16, 60408), (17, 60417), (18, 60429), (19, 60453), (20, 60489), (21, 60543), (22, 60546), (23, 60660), (24, 60693),

Gene: GooberAzure\_104 Start: 60014, Stop: 60793, Start Num: 6

Candidate Starts for GooberAzure\_104:

(1, 59801), (Start: 2 @59879 has 6 MA's), (Start: 4 @59933 has 8 MA's), (Start: 5 @59987 has 40 MA's), (Start: 6 @60014 has 67 MA's), (Start: 7 @60032 has 4 MA's), (8, 60116), (9, 60284), (10, 60299), (12, 60356), (13, 60368), (14, 60401), (15, 60485), (16, 60491), (17, 60500), (18, 60512), (19, 60536), (20, 60572), (21, 60626), (22, 60629), (23, 60743), (24, 60776),

Gene: HanKaySha\_102 Start: 60401, Stop: 61180, Start Num: 6

Candidate Starts for HanKaySha\_102:

(Start: 2 @60266 has 6 MA's), (Start: 4 @60320 has 8 MA's), (Start: 5 @60374 has 40 MA's), (Start: 6 @60401 has 67 MA's), (Start: 7 @60419 has 4 MA's), (8, 60503), (9, 60671), (10, 60686), (11, 60707), (12, 60743), (13, 60755), (14, 60788), (15, 60872), (16, 60878), (17, 60887), (18, 60899), (19, 60923), (20, 60959), (21, 61013), (22, 61016), (23, 61130), (24, 61163),

Gene: Harella\_101 Start: 60727, Stop: 61506, Start Num: 6

Candidate Starts for Harella\_101:

(Start: 2 @60592 has 6 MA's), (Start: 4 @60646 has 8 MA's), (Start: 5 @60700 has 40 MA's), (Start: 6 @60727 has 67 MA's), (Start: 7 @60745 has 4 MA's), (8, 60829), (9, 60997), (10, 61012), (12, 61069), (13, 61081), (14, 61114), (15, 61198), (16, 61204), (17, 61213), (18, 61225), (19, 61249), (20, 61285), (21, 61339), (22, 61342), (23, 61456), (24, 61489),

Gene: Henry\_98 Start: 60027, Stop: 60833, Start Num: 5

Candidate Starts for Henry\_98:

(1, 59841), (Start: 2 @59919 has 6 MA's), (Start: 4 @59973 has 8 MA's), (Start: 5 @60027 has 40 MA's), (Start: 6 @60054 has 67 MA's), (Start: 7 @60072 has 4 MA's), (8, 60156), (9, 60324), (10, 60339), (12, 60396), (13, 60408), (14, 60441), (15, 60525), (16, 60531), (17, 60540), (18, 60552), (19, 60576), (20, 60612), (21, 60666), (22, 60669), (23, 60783), (24, 60816),

Gene: Highbury\_98 Start: 58558, Stop: 59337, Start Num: 6

Candidate Starts for Highbury\_98:

(Start: 2 @58423 has 6 MA's), (Start: 4 @58477 has 8 MA's), (Start: 5 @58531 has 40 MA's), (Start: 6 @58558 has 67 MA's), (Start: 7 @58576 has 4 MA's), (8, 58660), (9, 58828), (10, 58843), (11, 58864), (12, 58900), (13, 58912), (14, 58945), (15, 59029), (16, 59035), (17, 59044), (18, 59056), (19, 59080), (20, 59116), (21, 59170), (22, 59173), (23, 59287), (24, 59320),

Gene: Holt\_106 Start: 60428, Stop: 61207, Start Num: 6

Candidate Starts for Holt\_106:

(1, 60215), (Start: 2 @60293 has 6 MA's), (Start: 4 @60347 has 8 MA's), (Start: 5 @60401 has 40 MA's), (Start: 6 @60428 has 67 MA's), (Start: 7 @60446 has 4 MA's), (8, 60530), (9, 60698), (10, 60713), (12, 60770), (13, 60782), (14, 60815), (15, 60899), (16, 60905), (17, 60914), (18, 60926), (19, 60950), (20, 60986), (21, 61040), (22, 61043), (23, 61157), (24, 61190),

Gene: Hoonter\_104 Start: 60507, Stop: 61286, Start Num: 6

Candidate Starts for Hoonter\_104:

(Start: 4 @60426 has 8 MA's), (Start: 5 @60480 has 40 MA's), (Start: 6 @60507 has 67 MA's), (Start: 7 @60525 has 4 MA's), (8, 60609), (9, 60777), (10, 60792), (11, 60813), (12, 60849), (13, 60861), (14, 60894), (15, 60978), (16, 60984), (17, 60993), (18, 61005), (19, 61029), (20, 61065), (21, 61119), (22, 61122), (23, 61236), (24, 61269),

Gene: Hopecy\_102 Start: 60931, Stop: 61791, Start Num: 4

Candidate Starts for Hopecy\_102:

(Start: 4 @60931 has 8 MA's), (Start: 5 @60985 has 40 MA's), (Start: 6 @61012 has 67 MA's), (Start: 7 @61030 has 4 MA's), (8, 61114), (9, 61282), (10, 61297), (11, 61318), (12, 61354), (13, 61366), (14, 61399), (15, 61483), (16, 61489), (17, 61498), (18, 61510), (19, 61534), (20, 61570), (21, 61624), (22, 61627), (23, 61741), (24, 61774),

Gene: HufflyPuff\_103 Start: 61095, Stop: 61901, Start Num: 5

Candidate Starts for HufflyPuff\_103:

(Start: 2 @60987 has 6 MA's), (Start: 4 @61041 has 8 MA's), (Start: 5 @61095 has 40 MA's), (Start: 6 @61122 has 67 MA's), (Start: 7 @61140 has 4 MA's), (8, 61224), (9, 61392), (10, 61407), (11, 61428), (12, 61464), (13, 61476), (14, 61509), (15, 61593), (16, 61599), (17, 61608), (18, 61620), (19, 61644), (20, 61680), (21, 61734), (22, 61737), (23, 61851), (24, 61884),

Gene: IHOP\_99 Start: 59748, Stop: 60509, Start Num: 7

Candidate Starts for IHOP\_99:

(Start: 2 @59595 has 6 MA's), (Start: 4 @59649 has 8 MA's), (Start: 5 @59703 has 40 MA's), (Start: 6 @59730 has 67 MA's), (Start: 7 @59748 has 4 MA's), (8, 59832), (9, 60000), (10, 60015), (11, 60036), (12, 60072), (13, 60084), (14, 60117), (15, 60201), (16, 60207), (17, 60216), (18, 60228), (19, 60252), (20, 60288), (21, 60342), (22, 60345), (23, 60459), (24, 60492),

Gene: Icee\_102 Start: 59538, Stop: 60317, Start Num: 6

Candidate Starts for Icee\_102:

(1, 59325), (Start: 2 @59403 has 6 MA's), (Start: 4 @59457 has 8 MA's), (Start: 5 @59511 has 40 MA's), (Start: 6 @59538 has 67 MA's), (Start: 7 @59556 has 4 MA's), (8, 59640), (9, 59808), (10, 59823), (11, 59844), (12, 59880), (13, 59892), (14, 59925), (15, 60009), (16, 60015), (17, 60024), (18, 60036), (19, 60060), (20, 60096), (21, 60150), (22, 60153), (23, 60267), (24, 60300),

Gene: Inca\_98 Start: 58219, Stop: 58998, Start Num: 6

Candidate Starts for Inca\_98:

(Start: 2 @58084 has 6 MA's), (Start: 4 @58138 has 8 MA's), (Start: 5 @58192 has 40 MA's), (Start: 6 @58219 has 67 MA's), (Start: 7 @58237 has 4 MA's), (8, 58321), (9, 58489), (10, 58504), (11, 58525), (12, 58561), (13, 58573), (14, 58606), (15, 58690), (16, 58696), (17, 58705), (18, 58717), (19, 58741), (20, 58777), (21, 58831), (22, 58834), (23, 58948), (24, 58981),

Gene: JeTaime\_100 Start: 59837, Stop: 60616, Start Num: 6

Candidate Starts for JeTaime\_100:

(Start: 2 @59702 has 6 MA's), (Start: 4 @59756 has 8 MA's), (Start: 5 @59810 has 40 MA's), (Start: 6 @59837 has 67 MA's), (Start: 7 @59855 has 4 MA's), (8, 59939), (9, 60107), (10, 60122), (11, 60143), (12, 60179), (13, 60191), (14, 60224), (15, 60308), (16, 60314), (17, 60323), (18, 60335), (19, 60359), (20, 60395), (21, 60449), (22, 60452), (23, 60566), (24, 60599),

Gene: Kanye\_98 Start: 60236, Stop: 61042, Start Num: 5

Candidate Starts for Kanye\_98:

(Start: 2 @60128 has 6 MA's), (Start: 4 @60182 has 8 MA's), (Start: 5 @60236 has 40 MA's), (Start: 6 @60263 has 67 MA's), (Start: 7 @60281 has 4 MA's), (8, 60365), (9, 60533), (10, 60548), (11, 60569), (12, 60605), (13, 60617), (14, 60650), (15, 60734), (16, 60740), (17, 60749), (18, 60761), (19, 60785), (20, 60821), (21, 60875), (22, 60878), (23, 60992), (24, 61025),

Gene: Kimchi\_105 Start: 60155, Stop: 60934, Start Num: 6

Candidate Starts for Kimchi\_105:

(Start: 2 @60020 has 6 MA's), (Start: 4 @60074 has 8 MA's), (Start: 5 @60128 has 40 MA's), (Start: 6 @60155 has 67 MA's), (Start: 7 @60173 has 4 MA's), (8, 60257), (9, 60425), (10, 60440), (11, 60461), (12, 60497), (13, 60509), (14, 60542), (15, 60626), (16, 60632), (17, 60641), (18, 60653), (19, 60677), (20, 60713), (21, 60767), (22, 60770), (23, 60884), (24, 60917),

Gene: Kostya\_101 Start: 59805, Stop: 60611, Start Num: 5

Candidate Starts for Kostya\_101:

(Start: 2 @59697 has 6 MA's), (Start: 4 @59751 has 8 MA's), (Start: 5 @59805 has 40 MA's), (Start: 6 @59832 has 67 MA's), (Start: 7 @59850 has 4 MA's), (8, 59934), (9, 60102), (10, 60117), (11, 60138), (12, 60174), (13, 60186), (14, 60219), (15, 60303), (16, 60309), (17, 60318), (18, 60330), (19, 60354), (20, 60390), (21, 60444), (22, 60447), (23, 60561), (24, 60594),

Gene: Lilac\_103 Start: 61155, Stop: 61934, Start Num: 6

Candidate Starts for Lilac\_103:

(Start: 4 @61074 has 8 MA's), (Start: 5 @61128 has 40 MA's), (Start: 6 @61155 has 67 MA's), (Start: 7 @61173 has 4 MA's), (8, 61257), (9, 61425), (10, 61440), (11, 61461), (12, 61497), (13, 61509), (14, 61542), (15, 61626), (16, 61632), (17, 61641), (18, 61653), (19, 61677), (20, 61713), (21, 61767), (22, 61770), (23, 61884), (24, 61917),

Gene: Lilizi\_102 Start: 60441, Stop: 61220, Start Num: 6

Candidate Starts for Lilizi\_102:

(Start: 4 @60360 has 8 MA's), (Start: 5 @60414 has 40 MA's), (Start: 6 @60441 has 67 MA's), (Start: 7 @60459 has 4 MA's), (8, 60543), (9, 60711), (10, 60726), (11, 60747), (12, 60783), (13, 60795), (14, 60828), (15, 60912), (16, 60918), (17, 60927), (18, 60939), (19, 60963), (20, 60999), (21, 61053), (22, 61056), (23, 61170), (24, 61203),

Gene: Lilpickle\_100 Start: 59630, Stop: 60436, Start Num: 5

Candidate Starts for Lilpickle\_100:

(Start: 4 @59576 has 8 MA's), (Start: 5 @59630 has 40 MA's), (Start: 6 @59657 has 67 MA's), (Start: 7 @59675 has 4 MA's), (8, 59759), (9, 59927), (10, 59942), (11, 59963), (12, 59999), (13, 60011), (14, 60044), (15, 60128), (16, 60134), (17, 60143), (18, 60155), (19, 60179), (20, 60215), (21, 60269), (22, 60272), (23, 60386), (24, 60419),

Gene: MISSy\_102 Start: 60913, Stop: 61719, Start Num: 5

Candidate Starts for MISSy\_102:

(1, 60727), (Start: 2 @60805 has 6 MA's), (Start: 4 @60859 has 8 MA's), (Start: 5 @60913 has 40 MA's), (Start: 6 @60940 has 67 MA's), (Start: 7 @60958 has 4 MA's), (8, 61042), (9, 61210), (10, 61225), (11, 61246), (12, 61282), (13, 61294), (14, 61327), (15, 61411), (16, 61417), (17, 61426), (18, 61438), (19, 61462), (20, 61498), (21, 61552), (22, 61555), (23, 61669), (24, 61702),

Gene: MPhalcon\_102 Start: 60330, Stop: 61136, Start Num: 5

Candidate Starts for MPhalcon\_102:

(1, 60144), (Start: 2 @60222 has 6 MA's), (Start: 4 @60276 has 8 MA's), (Start: 5 @60330 has 40 MA's), (Start: 6 @60357 has 67 MA's), (Start: 7 @60375 has 4 MA's), (8, 60459), (9, 60627), (10, 60642), (11, 60663), (12, 60699), (13, 60711), (14, 60744), (15, 60828), (16, 60834), (17, 60843), (18, 60855), (19, 60879), (20, 60915), (21, 60969), (22, 60972), (23, 61086), (24, 61119),

Gene: MadamMonkfish\_101 Start: 59863, Stop: 60642, Start Num: 6

Candidate Starts for MadamMonkfish\_101:

(Start: 2 @59728 has 6 MA's), (Start: 4 @59782 has 8 MA's), (Start: 5 @59836 has 40 MA's), (Start: 6 @59863 has 67 MA's), (Start: 7 @59881 has 4 MA's), (8, 59965), (9, 60133), (10, 60148), (11, 60169), (12, 60205), (13, 60217), (14, 60250), (15, 60334), (16, 60340), (17, 60349), (18, 60361), (19, 60385), (20, 60421), (21, 60475), (22, 60478), (23, 60592), (24, 60625),

Gene: Manda\_102 Start: 60394, Stop: 61173, Start Num: 6

Candidate Starts for Manda\_102:

(1, 60181), (Start: 2 @60259 has 6 MA's), (Start: 4 @60313 has 8 MA's), (Start: 5 @60367 has 40 MA's), (Start: 6 @60394 has 67 MA's), (Start: 7 @60412 has 4 MA's), (8, 60496), (9, 60664), (10, 60679), (11, 60700), (12, 60736), (13, 60748), (14, 60781), (15, 60865), (16, 60871), (17, 60880), (18, 60892), (19, 60916), (20, 60952), (21, 61006), (22, 61009), (23, 61123), (24, 61156),

Gene: Marshmallow\_98 Start: 60217, Stop: 61131, Start Num: 2

Candidate Starts for Marshmallow\_98:

(1, 60139), (Start: 2 @60217 has 6 MA's), (Start: 4 @60271 has 8 MA's), (Start: 5 @60325 has 40 MA's), (Start: 6 @60352 has 67 MA's), (Start: 7 @60370 has 4 MA's), (8, 60454), (9, 60622), (10, 60637), (11, 60658), (12, 60694), (13, 60706), (14, 60739), (15, 60823), (16, 60829), (17, 60838), (18, 60850), (19, 60874), (20, 60910), (21, 60964), (22, 60967), (23, 61081), (24, 61114),

Gene: Maxxinista\_103 Start: 60340, Stop: 61119, Start Num: 6

Candidate Starts for Maxxinista\_103:

(Start: 2 @60205 has 6 MA's), (Start: 4 @60259 has 8 MA's), (Start: 5 @60313 has 40 MA's), (Start: 6 @60340 has 67 MA's), (Start: 7 @60358 has 4 MA's), (8, 60442), (9, 60610), (10, 60625), (11, 60646), (12, 60682), (13, 60694), (14, 60727), (15, 60811), (16, 60817), (17, 60826), (18, 60838), (19, 60862), (20, 60898), (21, 60952), (22, 60955), (23, 61069), (24, 61102),

Gene: Mindy\_100 Start: 59673, Stop: 60452, Start Num: 6

Candidate Starts for Mindy\_100:

(Start: 2 @59538 has 6 MA's), (Start: 4 @59592 has 8 MA's), (Start: 5 @59646 has 40 MA's), (Start: 6 @59673 has 67 MA's), (Start: 7 @59691 has 4 MA's), (8, 59775), (9, 59943), (10, 59958), (11, 59979), (12, 60015), (13, 60027), (14, 60060), (15, 60144), (16, 60150), (17, 60159), (18, 60171), (19, 60195), (20, 60231), (21, 60285), (22, 60288), (23, 60402), (24, 60435),

Gene: Miniwave\_96 Start: 59823, Stop: 60629, Start Num: 5

Candidate Starts for Miniwave\_96:

(1, 59637), (Start: 2 @59715 has 6 MA's), (Start: 4 @59769 has 8 MA's), (Start: 5 @59823 has 40 MA's), (Start: 6 @59850 has 67 MA's), (Start: 7 @59868 has 4 MA's), (8, 59952), (9, 60120), (10, 60135), (11, 60156), (12, 60192), (13, 60204), (14, 60237), (15, 60321), (16, 60327), (17, 60336), (18, 60348), (19, 60372), (20, 60408), (21, 60462), (22, 60465), (23, 60579), (24, 60612),

Gene: Misfit\_102 Start: 61453, Stop: 62232, Start Num: 6

Candidate Starts for Misfit\_102:

(1, 61240), (Start: 2 @61318 has 6 MA's), (Start: 4 @61372 has 8 MA's), (Start: 5 @61426 has 40 MA's), (Start: 6 @61453 has 67 MA's), (Start: 7 @61471 has 4 MA's), (8, 61555), (9, 61723), (10, 61738), (11, 61759), (12, 61795), (13, 61807), (14, 61840), (15, 61924), (16, 61930), (17, 61939), (18, 61951), (19, 61975), (20, 62011), (21, 62065), (22, 62068), (23, 62182), (24, 62215),

Gene: Moldemort\_104 Start: 60321, Stop: 61100, Start Num: 6

Candidate Starts for Moldemort\_104:

(Start: 2 @60186 has 6 MA's), (Start: 4 @60240 has 8 MA's), (Start: 5 @60294 has 40 MA's), (Start: 6 @60321 has 67 MA's), (Start: 7 @60339 has 4 MA's), (8, 60423), (9, 60591), (10, 60606), (11, 60627), (12, 60663), (13, 60675), (14, 60708), (15, 60792), (16, 60798), (17, 60807), (18, 60819), (19, 60843), (20, 60879), (21, 60933), (22, 60936), (23, 61050), (24, 61083),

Gene: Mosby\_97 Start: 59790, Stop: 60596, Start Num: 5

Candidate Starts for Mosby\_97:

(1, 59604), (Start: 2 @59682 has 6 MA's), (Start: 4 @59736 has 8 MA's), (Start: 5 @59790 has 40 MA's), (Start: 6 @59817 has 67 MA's), (Start: 7 @59835 has 4 MA's), (8, 59919), (9, 60087), (10, 60102), (11, 60123), (12, 60159), (13, 60171), (14, 60204), (15, 60288), (16, 60294), (17, 60303), (18, 60315), (19, 60339), (20, 60375), (21, 60429), (22, 60432), (23, 60546), (24, 60579),

Gene: Murica\_104 Start: 62129, Stop: 62935, Start Num: 5

Candidate Starts for Murica\_104:

(1, 61943), (Start: 2 @62021 has 6 MA's), (Start: 4 @62075 has 8 MA's), (Start: 5 @62129 has 40 MA's), (Start: 6 @62156 has 67 MA's), (Start: 7 @62174 has 4 MA's), (8, 62258), (9, 62426), (10, 62441), (11, 62462), (12, 62498), (13, 62510), (14, 62543), (15, 62627), (16, 62633), (17, 62642), (18, 62654), (19, 62678), (20, 62714), (21, 62768), (22, 62771), (23, 62885), (24, 62918),

Gene: Murphy\_101 Start: 60686, Stop: 61492, Start Num: 5

Candidate Starts for Murphy\_101:

(Start: 4 @60632 has 8 MA's), (Start: 5 @60686 has 40 MA's), (Start: 6 @60713 has 67 MA's), (Start: 7 @60731 has 4 MA's), (8, 60815), (9, 60983), (10, 60998), (11, 61019), (12, 61055), (13, 61067), (14, 61100), (15, 61184), (16, 61190), (17, 61199), (18, 61211), (19, 61235), (20, 61271), (21, 61325), (22, 61328), (23, 61442), (24, 61475),

Gene: Myrale\_101 Start: 60512, Stop: 61291, Start Num: 6

Candidate Starts for Myrale\_101:

(1, 60299), (Start: 2 @60377 has 6 MA's), (Start: 4 @60431 has 8 MA's), (Start: 5 @60485 has 40 MA's), (Start: 6 @60512 has 67 MA's), (Start: 7 @60530 has 4 MA's), (8, 60614), (9, 60782), (10, 60797), (11, 60818), (12, 60854), (13, 60866), (14, 60899), (15, 60983), (16, 60989), (17, 60998), (18, 61010), (19, 61034), (20, 61070), (21, 61124), (22, 61127), (23, 61241), (24, 61274),

Gene: Nala\_103 Start: 60839, Stop: 61645, Start Num: 5

Candidate Starts for Nala\_103:

(Start: 2 @60731 has 6 MA's), (Start: 4 @60785 has 8 MA's), (Start: 5 @60839 has 40 MA's), (Start: 6 @60866 has 67 MA's), (Start: 7 @60884 has 4 MA's), (8, 60968), (9, 61136), (10, 61151), (11, 61172), (12, 61208), (13, 61220), (14, 61253), (15, 61337), (16, 61343), (17, 61352), (18, 61364), (19, 61388), (20, 61424), (21, 61478), (22, 61481), (23, 61595), (24, 61628),

Gene: NelitzaMV\_98 Start: 58860, Stop: 59639, Start Num: 6

Candidate Starts for NelitzaMV\_98:

(1, 58647), (Start: 2 @58725 has 6 MA's), (Start: 4 @58779 has 8 MA's), (Start: 5 @58833 has 40 MA's), (Start: 6 @58860 has 67 MA's), (Start: 7 @58878 has 4 MA's), (8, 58962), (9, 59130), (10, 59145), (12, 59202), (13, 59214), (14, 59247), (15, 59331), (16, 59337), (17, 59346), (18, 59358), (19, 59382), (20, 59418), (21, 59472), (22, 59475), (23, 59589), (24, 59622),

Gene: Nimrod\_101 Start: 60344, Stop: 61258, Start Num: 2

Candidate Starts for Nimrod\_101:

(Start: 2 @60344 has 6 MA's), (Start: 4 @60398 has 8 MA's), (Start: 5 @60452 has 40 MA's), (Start: 6 @60479 has 67 MA's), (Start: 7 @60497 has 4 MA's), (8, 60581), (9, 60749), (10, 60764), (11, 60785), (12, 60821), (13, 60833), (14, 60866), (15, 60950), (16, 60956), (17, 60965), (18, 60977), (19, 61001), (20, 61037), (21, 61091), (22, 61094), (23, 61208), (24, 61241),

Gene: NoSleep\_102 Start: 59873, Stop: 60652, Start Num: 6

Candidate Starts for NoSleep\_102:

(1, 59660), (Start: 2 @59738 has 6 MA's), (Start: 4 @59792 has 8 MA's), (Start: 5 @59846 has 40 MA's), (Start: 6 @59873 has 67 MA's), (Start: 7 @59891 has 4 MA's), (8, 59975), (9, 60143), (10, 60158), (11, 60179), (12, 60215), (13, 60227), (14, 60260), (15, 60344), (16, 60350), (17, 60359), (18, 60371), (19, 60395), (20, 60431), (21, 60485), (22, 60488), (24, 60635),

Gene: OrionPax\_100 Start: 59946, Stop: 60725, Start Num: 6

Candidate Starts for OrionPax\_100:

(Start: 4 @59865 has 8 MA's), (Start: 5 @59919 has 40 MA's), (Start: 6 @59946 has 67 MA's), (Start: 7 @59964 has 4 MA's), (8, 60048), (9, 60216), (10, 60231), (11, 60252), (12, 60288), (13, 60300), (14, 60333), (15, 60417), (16, 60423), (17, 60432), (18, 60444), (19, 60468), (20, 60504), (21, 60558), (22, 60561), (23, 60675), (24, 60708),



Gene: Palpatine\_102 Start: 61151, Stop: 61930, Start Num: 6

Candidate Starts for Palpatine\_102:

(Start: 2 @61016 has 6 MA's), (Start: 4 @61070 has 8 MA's), (Start: 5 @61124 has 40 MA's), (Start: 6 @61151 has 67 MA's), (Start: 7 @61169 has 4 MA's), (8, 61253), (9, 61421), (10, 61436), (11, 61457), (12, 61493), (13, 61505), (14, 61538), (15, 61622), (16, 61628), (17, 61637), (18, 61649), (19, 61673), (20, 61709), (21, 61763), (22, 61766), (23, 61880), (24, 61913),

Gene: Paperbeatsrock\_100 Start: 60528, Stop: 61307, Start Num: 6

Candidate Starts for Paperbeatsrock\_100:

(1, 60315), (Start: 2 @60393 has 6 MA's), (Start: 4 @60447 has 8 MA's), (Start: 5 @60501 has 40 MA's), (Start: 6 @60528 has 67 MA's), (Start: 7 @60546 has 4 MA's), (8, 60630), (9, 60798), (10, 60813), (11, 60834), (12, 60870), (13, 60882), (14, 60915), (15, 60999), (16, 61005), (17, 61014), (18, 61026), (19, 61050), (20, 61086), (21, 61140), (22, 61143), (23, 61257), (24, 61290),

Gene: Pat3\_98 Start: 59018, Stop: 59824, Start Num: 5

Candidate Starts for Pat3\_98:

(Start: 2 @58910 has 6 MA's), (Start: 4 @58964 has 8 MA's), (Start: 5 @59018 has 40 MA's), (Start: 6 @59045 has 67 MA's), (Start: 7 @59063 has 4 MA's), (8, 59147), (9, 59315), (10, 59330), (11, 59351), (12, 59387), (13, 59399), (14, 59432), (15, 59516), (16, 59522), (17, 59531), (18, 59543), (19, 59567), (20, 59603), (21, 59657), (22, 59660), (23, 59774), (24, 59807),

Gene: Petra64142\_105 Start: 61017, Stop: 61796, Start Num: 6

Candidate Starts for Petra64142\_105:

(1, 60804), (Start: 2 @60882 has 6 MA's), (Start: 4 @60936 has 8 MA's), (Start: 5 @60990 has 40 MA's), (Start: 6 @61017 has 67 MA's), (Start: 7 @61035 has 4 MA's), (8, 61119), (9, 61287), (10, 61302), (12, 61359), (13, 61371), (14, 61404), (15, 61488), (16, 61494), (17, 61503), (18, 61515), (19, 61539), (20, 61575), (21, 61629), (22, 61632), (23, 61746), (24, 61779),

Gene: Phaja\_99 Start: 59750, Stop: 60511, Start Num: 7

Candidate Starts for Phaja\_99:

(Start: 2 @59597 has 6 MA's), (Start: 4 @59651 has 8 MA's), (Start: 5 @59705 has 40 MA's), (Start: 6 @59732 has 67 MA's), (Start: 7 @59750 has 4 MA's), (8, 59834), (9, 60002), (10, 60017), (12, 60074), (13, 60086), (14, 60119), (15, 60203), (16, 60209), (17, 60218), (18, 60230), (19, 60254), (20, 60290), (21, 60344), (22, 60347), (23, 60461), (24, 60494),

Gene: Pharsalus\_98 Start: 60200, Stop: 61006, Start Num: 5

Candidate Starts for Pharsalus\_98:

(Start: 2 @60092 has 6 MA's), (Start: 4 @60146 has 8 MA's), (Start: 5 @60200 has 40 MA's), (Start: 6 @60227 has 67 MA's), (Start: 7 @60245 has 4 MA's), (8, 60329), (9, 60497), (10, 60512), (11, 60533), (12, 60569), (13, 60581), (14, 60614), (15, 60698), (16, 60704), (17, 60713), (18, 60725), (19, 60749), (20, 60785), (21, 60839), (22, 60842), (23, 60956), (24, 60989),

Gene: PhatBacter\_104 Start: 60869, Stop: 61675, Start Num: 5

Candidate Starts for PhatBacter\_104:

(Start: 2 @60761 has 6 MA's), (Start: 4 @60815 has 8 MA's), (Start: 5 @60869 has 40 MA's), (Start: 6 @60896 has 67 MA's), (Start: 7 @60914 has 4 MA's), (8, 60998), (9, 61166), (10, 61181), (11, 61202), (12, 61238), (13, 61250), (14, 61283), (15, 61367), (16, 61373), (17, 61382), (18, 61394), (19, 61418), (20, 61454), (21, 61508), (22, 61511), (23, 61625), (24, 61658),

Gene: Phaux\_103 Start: 61375, Stop: 62235, Start Num: 4

Candidate Starts for Phaux\_103:

(1, 61243), (Start: 2 @61321 has 6 MA's), (Start: 4 @61375 has 8 MA's), (Start: 5 @61429 has 40 MA's), (Start: 6 @61456 has 67 MA's), (Start: 7 @61474 has 4 MA's), (8, 61558), (9, 61726), (10, 61741), (12, 61798), (13, 61810), (14, 61843), (15, 61927), (16, 61933), (17, 61942), (18, 61954), (19, 61978), (20, 62014), (21, 62068), (22, 62071), (23, 62185), (24, 62218),

Gene: Phrux\_98 Start: 59706, Stop: 60512, Start Num: 5

Candidate Starts for Phrux\_98:

(Start: 4 @59652 has 8 MA's), (Start: 5 @59706 has 40 MA's), (Start: 6 @59733 has 67 MA's), (Start: 7 @59751 has 4 MA's), (8, 59835), (9, 60003), (10, 60018), (11, 60039), (12, 60075), (13, 60087), (14, 60120), (15, 60204), (16, 60210), (17, 60219), (18, 60231), (19, 60255), (20, 60291), (21, 60345), (22, 60348), (23, 60462), (24, 60495),

Gene: Policronamos\_103 Start: 61178, Stop: 61939, Start Num: 7

Candidate Starts for Policronamos\_103:

(1, 60947), (Start: 2 @61025 has 6 MA's), (Start: 4 @61079 has 8 MA's), (Start: 5 @61133 has 40 MA's), (Start: 6 @61160 has 67 MA's), (Start: 7 @61178 has 4 MA's), (8, 61262), (9, 61430), (10, 61445), (12, 61502), (13, 61514), (14, 61547), (15, 61631), (16, 61637), (17, 61646), (18, 61658), (19, 61682), (20, 61718), (21, 61772), (22, 61775), (23, 61889), (24, 61922),

Gene: Porky\_100 Start: 59477, Stop: 60256, Start Num: 6

Candidate Starts for Porky\_100:

(Start: 4 @59396 has 8 MA's), (Start: 5 @59450 has 40 MA's), (Start: 6 @59477 has 67 MA's), (Start: 7 @59495 has 4 MA's), (8, 59579), (9, 59747), (10, 59762), (11, 59783), (12, 59819), (13, 59831), (14, 59864), (15, 59948), (16, 59954), (17, 59963), (18, 59975), (19, 59999), (20, 60035), (21, 60089), (22, 60092), (24, 60239),

Gene: Pumpkin\_103 Start: 59992, Stop: 60852, Start Num: 4

Candidate Starts for Pumpkin\_103:

(1, 59860), (Start: 2 @59938 has 6 MA's), (Start: 4 @59992 has 8 MA's), (Start: 5 @60046 has 40 MA's), (Start: 6 @60073 has 67 MA's), (Start: 7 @60091 has 4 MA's), (8, 60175), (9, 60343), (10, 60358), (11, 60379), (12, 60415), (13, 60427), (14, 60460), (15, 60544), (16, 60550), (17, 60559), (18, 60571), (19, 60595), (20, 60631), (21, 60685), (22, 60688), (23, 60802), (24, 60835),

Gene: Quallification\_102 Start: 60942, Stop: 61721, Start Num: 6

Candidate Starts for Quallification\_102:

(Start: 2 @60807 has 6 MA's), (Start: 4 @60861 has 8 MA's), (Start: 5 @60915 has 40 MA's), (Start: 6 @60942 has 67 MA's), (Start: 7 @60960 has 4 MA's), (8, 61044), (9, 61212), (10, 61227), (11, 61248), (12, 61284), (13, 61296), (14, 61329), (15, 61413), (16, 61419), (17, 61428), (18, 61440), (19, 61464), (20, 61500), (21, 61554), (22, 61557), (23, 61671), (24, 61704),

Gene: Rakim\_102 Start: 59964, Stop: 60743, Start Num: 6

Candidate Starts for Rakim\_102:

(1, 59751), (Start: 2 @59829 has 6 MA's), (Start: 4 @59883 has 8 MA's), (Start: 5 @59937 has 40 MA's), (Start: 6 @59964 has 67 MA's), (Start: 7 @59982 has 4 MA's), (8, 60066), (9, 60234), (10, 60249), (12, 60306), (13, 60318), (14, 60351), (15, 60435), (16, 60441), (17, 60450), (18, 60462), (19, 60486), (20, 60522), (21, 60576), (22, 60579), (23, 60693), (24, 60726),

Gene: Rimmer\_99 Start: 60354, Stop: 61133, Start Num: 6

Candidate Starts for Rimmer\_99:

(Start: 2 @60219 has 6 MA's), (Start: 4 @60273 has 8 MA's), (Start: 5 @60327 has 40 MA's), (Start: 6 @60354 has 67 MA's), (Start: 7 @60372 has 4 MA's), (8, 60456), (9, 60624), (10, 60639), (12, 60696), (13, 60708), (14, 60741), (15, 60825), (16, 60831), (17, 60840), (18, 60852), (19, 60876), (20, 60912), (21, 60966), (22, 60969), (23, 61083), (24, 61116),

Gene: RiverMonster\_101 Start: 60493, Stop: 61407, Start Num: 2

Candidate Starts for RiverMonster\_101:

(Start: 2 @60493 has 6 MA's), (Start: 4 @60547 has 8 MA's), (Start: 5 @60601 has 40 MA's), (Start: 6 @60628 has 67 MA's), (Start: 7 @60646 has 4 MA's), (8, 60730), (9, 60898), (10, 60913), (11, 60934), (12, 60970), (13, 60982), (14, 61015), (15, 61099), (16, 61105), (17, 61114), (18, 61126), (19, 61150), (20, 61186), (21, 61240), (22, 61243), (23, 61357), (24, 61390),

Gene: Saints25\_98 Start: 58558, Stop: 59337, Start Num: 6

Candidate Starts for Saints25\_98:

(Start: 2 @58423 has 6 MA's), (Start: 4 @58477 has 8 MA's), (Start: 5 @58531 has 40 MA's), (Start: 6 @58558 has 67 MA's), (Start: 7 @58576 has 4 MA's), (8, 58660), (9, 58828), (10, 58843), (11, 58864), (12, 58900), (13, 58912), (14, 58945), (15, 59029), (16, 59035), (17, 59044), (18, 59056), (19, 59080), (20, 59116), (21, 59170), (22, 59173), (23, 59287), (24, 59320),

Gene: Sassay\_96 Start: 58752, Stop: 59558, Start Num: 5

Candidate Starts for Sassay\_96:

(1, 58566), (Start: 2 @58644 has 6 MA's), (Start: 4 @58698 has 8 MA's), (Start: 5 @58752 has 40 MA's), (Start: 6 @58779 has 67 MA's), (Start: 7 @58797 has 4 MA's), (8, 58881), (9, 59049), (10, 59064), (11, 59085), (12, 59121), (13, 59133), (14, 59166), (15, 59250), (16, 59256), (17, 59265), (18, 59277), (19, 59301), (20, 59337), (21, 59391), (22, 59394), (23, 59508), (24, 59541),

Gene: ShamWow\_101 Start: 60722, Stop: 61528, Start Num: 5

Candidate Starts for ShamWow\_101:

(1, 60536), (Start: 2 @60614 has 6 MA's), (Start: 4 @60668 has 8 MA's), (Start: 5 @60722 has 40 MA's), (Start: 6 @60749 has 67 MA's), (Start: 7 @60767 has 4 MA's), (8, 60851), (9, 61019), (10, 61034), (12, 61091), (13, 61103), (14, 61136), (15, 61220), (16, 61226), (17, 61235), (18, 61247), (19, 61271), (20, 61307), (21, 61361), (22, 61364), (23, 61478), (24, 61511),

Gene: ShereKhan\_99 Start: 61188, Stop: 61967, Start Num: 6

Candidate Starts for ShereKhan\_99:

(Start: 2 @61053 has 6 MA's), (Start: 4 @61107 has 8 MA's), (Start: 5 @61161 has 40 MA's), (Start: 6 @61188 has 67 MA's), (Start: 7 @61206 has 4 MA's), (8, 61290), (9, 61458), (10, 61473), (11, 61494), (12, 61530), (13, 61542), (14, 61575), (15, 61659), (16, 61665), (17, 61674), (18, 61686), (19, 61710), (20, 61746), (21, 61800), (22, 61803), (23, 61917), (24, 61950),

Gene: Simpliphy\_100 Start: 60199, Stop: 60978, Start Num: 6

Candidate Starts for Simpliphy\_100:

(Start: 2 @60064 has 6 MA's), (Start: 4 @60118 has 8 MA's), (Start: 5 @60172 has 40 MA's), (Start: 6 @60199 has 67 MA's), (Start: 7 @60217 has 4 MA's), (8, 60301), (9, 60469), (10, 60484), (11, 60505), (12, 60541), (13, 60553), (14, 60586), (15, 60670), (16, 60676), (17, 60685), (18, 60697), (19, 60721), (20, 60757), (21, 60811), (22, 60814), (23, 60928), (24, 60961),

Gene: SirDuracell\_101 Start: 59539, Stop: 60345, Start Num: 5

Candidate Starts for SirDuracell\_101:

(Start: 2 @59431 has 6 MA's), (Start: 4 @59485 has 8 MA's), (Start: 5 @59539 has 40 MA's), (Start: 6 @59566 has 67 MA's), (Start: 7 @59584 has 4 MA's), (8, 59668), (9, 59836), (10, 59851), (11, 59872), (12, 59908), (13, 59920), (14, 59953), (15, 60037), (16, 60043), (17, 60052), (18, 60064), (19, 60088), (20, 60124), (21, 60178), (22, 60181), (23, 60295), (24, 60328),

Gene: SophKB\_99 Start: 59962, Stop: 60768, Start Num: 5

Candidate Starts for SophKB\_99:

(3, 59896), (Start: 4 @59908 has 8 MA's), (Start: 5 @59962 has 40 MA's), (Start: 6 @59989 has 67 MA's), (Start: 7 @60007 has 4 MA's), (8, 60091), (9, 60259), (10, 60274), (11, 60295), (12, 60331), (13, 60343), (14, 60376), (15, 60460), (16, 60466), (17, 60475), (18, 60487), (19, 60511), (20, 60547), (21, 60601), (22, 60604), (23, 60718), (24, 60751),

Gene: Sotrice96\_102 Start: 60453, Stop: 61232, Start Num: 6

Candidate Starts for Sotrice96\_102:

(Start: 2 @60318 has 6 MA's), (Start: 4 @60372 has 8 MA's), (Start: 5 @60426 has 40 MA's), (Start: 6 @60453 has 67 MA's), (Start: 7 @60471 has 4 MA's), (8, 60555), (9, 60723), (10, 60738), (11, 60759), (12, 60795), (13, 60807), (14, 60840), (15, 60924), (16, 60930), (17, 60939), (18, 60951), (19, 60975), (20, 61011), (21, 61065), (22, 61068), (23, 61182), (24, 61215),

Gene: Stank\_103 Start: 60227, Stop: 61006, Start Num: 6

Candidate Starts for Stank\_103:

(1, 60014), (Start: 2 @60092 has 6 MA's), (Start: 4 @60146 has 8 MA's), (Start: 5 @60200 has 40 MA's), (Start: 6 @60227 has 67 MA's), (Start: 7 @60245 has 4 MA's), (8, 60329), (9, 60497), (10, 60512), (12, 60569), (13, 60581), (14, 60614), (15, 60698), (16, 60704), (17, 60713), (18, 60725), (19, 60749), (20, 60785), (21, 60839), (22, 60842), (23, 60956), (24, 60989),

Gene: Stark\_102 Start: 60512, Stop: 61291, Start Num: 6

Candidate Starts for Stark\_102:

(Start: 4 @60431 has 8 MA's), (Start: 5 @60485 has 40 MA's), (Start: 6 @60512 has 67 MA's), (Start: 7 @60530 has 4 MA's), (8, 60614), (9, 60782), (10, 60797), (11, 60818), (12, 60854), (13, 60866), (14, 60899), (15, 60983), (16, 60989), (17, 60998), (18, 61010), (19, 61034), (20, 61070), (21, 61124), (22, 61127), (23, 61241), (24, 61274),

Gene: StellaBean\_100 Start: 60589, Stop: 61368, Start Num: 6

Candidate Starts for StellaBean\_100:

(Start: 2 @60454 has 6 MA's), (Start: 4 @60508 has 8 MA's), (Start: 5 @60562 has 40 MA's), (Start: 6 @60589 has 67 MA's), (Start: 7 @60607 has 4 MA's), (8, 60691), (9, 60859), (10, 60874), (11, 60895), (12, 60931), (13, 60943), (14, 60976), (15, 61060), (16, 61066), (17, 61075), (18, 61087), (19, 61111), (20, 61147), (21, 61201), (22, 61204), (23, 61318), (24, 61351),

Gene: StolenFromERC\_103 Start: 60152, Stop: 60931, Start Num: 6

Candidate Starts for StolenFromERC\_103:

(Start: 2 @60017 has 6 MA's), (Start: 4 @60071 has 8 MA's), (Start: 5 @60125 has 40 MA's), (Start: 6 @60152 has 67 MA's), (Start: 7 @60170 has 4 MA's), (8, 60254), (9, 60422), (10, 60437), (11, 60458), (12, 60494), (13, 60506), (14, 60539), (15, 60623), (16, 60629), (17, 60638), (18, 60650), (19, 60674), (20, 60710), (21, 60764), (22, 60767), (24, 60914),

Gene: StormChicken\_102 Start: 60491, Stop: 61297, Start Num: 5

Candidate Starts for StormChicken\_102:

(1, 60305), (Start: 2 @60383 has 6 MA's), (Start: 4 @60437 has 8 MA's), (Start: 5 @60491 has 40 MA's), (Start: 6 @60518 has 67 MA's), (Start: 7 @60536 has 4 MA's), (8, 60620), (9, 60788), (10, 60803), (12, 60860), (13, 60872), (14, 60905), (15, 60989), (16, 60995), (17, 61004), (18, 61016), (19, 61040), (20, 61076), (21, 61130), (22, 61133), (23, 61247), (24, 61280),

Gene: TBrady12\_104 Start: 59667, Stop: 60446, Start Num: 6

Candidate Starts for TBrady12\_104:

(1, 59454), (Start: 2 @59532 has 6 MA's), (Start: 4 @59586 has 8 MA's), (Start: 5 @59640 has 40 MA's), (Start: 6 @59667 has 67 MA's), (Start: 7 @59685 has 4 MA's), (8, 59769), (9, 59937), (10, 59952), (12, 60009), (13, 60021), (14, 60054), (15, 60138), (16, 60144), (17, 60153), (18, 60165), (19, 60189), (20, 60225), (21, 60279), (22, 60282), (23, 60396), (24, 60429),

Gene: Tarkin\_100 Start: 61026, Stop: 61832, Start Num: 5

Candidate Starts for Tarkin\_100:

(Start: 2 @60918 has 6 MA's), (Start: 4 @60972 has 8 MA's), (Start: 5 @61026 has 40 MA's), (Start: 6 @61053 has 67 MA's), (Start: 7 @61071 has 4 MA's), (8, 61155), (9, 61323), (10, 61338), (11, 61359), (12, 61395), (13, 61407), (14, 61440), (15, 61524), (16, 61530), (17, 61539), (18, 61551), (19, 61575), (20, 61611), (21, 61665), (22, 61668), (23, 61782), (24, 61815),

Gene: TeardropMSU\_97 Start: 59453, Stop: 60313, Start Num: 4

Candidate Starts for TeardropMSU\_97:

(Start: 2 @59399 has 6 MA's), (Start: 4 @59453 has 8 MA's), (Start: 5 @59507 has 40 MA's), (Start: 6 @59534 has 67 MA's), (Start: 7 @59552 has 4 MA's), (8, 59636), (9, 59804), (10, 59819), (11, 59840), (12, 59876), (13, 59888), (14, 59921), (15, 60005), (16, 60011), (17, 60020), (18, 60032), (19, 60056), (20, 60092), (21, 60146), (22, 60149), (23, 60263), (24, 60296),

Gene: Teaspoon\_102 Start: 60411, Stop: 61190, Start Num: 6

Candidate Starts for Teaspoon\_102:

(Start: 4 @60330 has 8 MA's), (Start: 5 @60384 has 40 MA's), (Start: 6 @60411 has 67 MA's), (Start: 7 @60429 has 4 MA's), (8, 60513), (9, 60681), (10, 60696), (11, 60717), (12, 60753), (13, 60765), (14, 60798), (15, 60882), (16, 60888), (17, 60897), (18, 60909), (19, 60933), (20, 60969), (21, 61023), (22, 61026), (24, 61173),

Gene: Terminus\_104 Start: 61426, Stop: 62232, Start Num: 5

Candidate Starts for Terminus\_104:

(1, 61240), (Start: 2 @61318 has 6 MA's), (Start: 4 @61372 has 8 MA's), (Start: 5 @61426 has 40 MA's), (Start: 6 @61453 has 67 MA's), (Start: 7 @61471 has 4 MA's), (8, 61555), (9, 61723), (10, 61738), (11, 61759), (12, 61795), (13, 61807), (14, 61840), (15, 61924), (16, 61930), (17, 61939), (18, 61951), (19, 61975), (20, 62011), (21, 62065), (22, 62068), (23, 62182), (24, 62215),

Gene: Thimble\_103 Start: 59417, Stop: 60196, Start Num: 6

Candidate Starts for Thimble\_103:

(1, 59204), (Start: 2 @59282 has 6 MA's), (Start: 4 @59336 has 8 MA's), (Start: 5 @59390 has 40 MA's), (Start: 6 @59417 has 67 MA's), (Start: 7 @59435 has 4 MA's), (8, 59519), (9, 59687), (10, 59702), (12, 59759), (13, 59771), (14, 59804), (15, 59888), (16, 59894), (17, 59903), (18, 59915), (19, 59939), (20, 59975), (21, 60029), (22, 60032), (23, 60146), (24, 60179),

Gene: Thresher\_103 Start: 61292, Stop: 62071, Start Num: 6

Candidate Starts for Thresher\_103:

(Start: 4 @61211 has 8 MA's), (Start: 5 @61265 has 40 MA's), (Start: 6 @61292 has 67 MA's), (Start: 7 @61310 has 4 MA's), (8, 61394), (9, 61562), (10, 61577), (11, 61598), (12, 61634), (13, 61646), (14, 61679), (15, 61763), (16, 61769), (17, 61778), (18, 61790), (19, 61814), (20, 61850), (21, 61904), (22, 61907), (23, 62021), (24, 62054),

Gene: Tomaszewski\_96 Start: 59856, Stop: 60770, Start Num: 2

Candidate Starts for Tomaszewski\_96:

(Start: 2 @59856 has 6 MA's), (Start: 4 @59910 has 8 MA's), (Start: 5 @59964 has 40 MA's), (Start: 6 @59991 has 67 MA's), (Start: 7 @60009 has 4 MA's), (8, 60093), (9, 60261), (10, 60276), (11, 60297), (12, 60333), (13, 60345), (14, 60378), (15, 60462), (16, 60468), (17, 60477), (18, 60489), (19, 60513), (20, 60549), (21, 60603), (22, 60606), (23, 60720), (24, 60753),

Gene: Toto\_99 Start: 60749, Stop: 61528, Start Num: 6

Candidate Starts for Toto\_99:

(1, 60536), (Start: 2 @60614 has 6 MA's), (Start: 4 @60668 has 8 MA's), (Start: 5 @60722 has 40 MA's), (Start: 6 @60749 has 67 MA's), (Start: 7 @60767 has 4 MA's), (8, 60851), (9, 61019), (10, 61034), (12, 61091), (13, 61103), (14, 61136), (15, 61220), (16, 61226), (17, 61235), (18, 61247), (19, 61271), (20, 61307), (21, 61361), (22, 61364), (23, 61478), (24, 61511),

Gene: Traaww1\_97 Start: 59256, Stop: 60035, Start Num: 6

Candidate Starts for Traaww1\_97:

(Start: 2 @59121 has 6 MA's), (Start: 4 @59175 has 8 MA's), (Start: 5 @59229 has 40 MA's), (Start: 6 @59256 has 67 MA's), (Start: 7 @59274 has 4 MA's), (8, 59358), (9, 59526), (10, 59541), (11, 59562), (12, 59598), (13, 59610), (14, 59643), (15, 59727), (16, 59733), (17, 59742), (18, 59754), (19, 59778), (20, 59814), (21, 59868), (22, 59871), (23, 59985), (24, 60018),

Gene: Tuco\_102 Start: 61587, Stop: 62393, Start Num: 5

Candidate Starts for Tuco\_102:

(Start: 2 @61479 has 6 MA's), (Start: 4 @61533 has 8 MA's), (Start: 5 @61587 has 40 MA's), (Start: 6 @61614 has 67 MA's), (Start: 7 @61632 has 4 MA's), (8, 61716), (9, 61884), (10, 61899), (11, 61920), (12, 61956), (13, 61968), (14, 62001), (15, 62085), (16, 62091), (17, 62100), (18, 62112), (19, 62136), (20, 62172), (21, 62226), (22, 62229), (23, 62343), (24, 62376),

Gene: Ukulele\_96 Start: 60011, Stop: 60790, Start Num: 6

Candidate Starts for Ukulele\_96:

(Start: 2 @59876 has 6 MA's), (Start: 4 @59930 has 8 MA's), (Start: 5 @59984 has 40 MA's), (Start: 6 @60011 has 67 MA's), (Start: 7 @60029 has 4 MA's), (8, 60113), (9, 60281), (10, 60296), (11, 60317), (12, 60353), (13, 60365), (14, 60398), (15, 60482), (16, 60488), (17, 60497), (18, 60509), (19, 60533), (20, 60569), (21, 60623), (22, 60626), (23, 60740), (24, 60773),

Gene: Wiggin\_103 Start: 59657, Stop: 60436, Start Num: 6

Candidate Starts for Wiggin\_103:

(1, 59444), (Start: 2 @59522 has 6 MA's), (Start: 4 @59576 has 8 MA's), (Start: 5 @59630 has 40 MA's), (Start: 6 @59657 has 67 MA's), (Start: 7 @59675 has 4 MA's), (8, 59759), (9, 59927), (10, 59942), (12, 59999), (13, 60011), (14, 60044), (15, 60128), (16, 60134), (17, 60143), (18, 60155), (19, 60179), (20, 60215), (21, 60269), (22, 60272), (23, 60386), (24, 60419),

Gene: Willez\_96 Start: 58752, Stop: 59558, Start Num: 5

Candidate Starts for Willez\_96:

(1, 58566), (Start: 2 @58644 has 6 MA's), (Start: 4 @58698 has 8 MA's), (Start: 5 @58752 has 40 MA's), (Start: 6 @58779 has 67 MA's), (Start: 7 @58797 has 4 MA's), (8, 58881), (9, 59049), (10, 59064), (11, 59085), (12, 59121), (13, 59133), (14, 59166), (15, 59250), (16, 59256), (17, 59265), (18, 59277), (19, 59301), (20, 59337), (21, 59391), (22, 59394), (23, 59508), (24, 59541),

Gene: Xandras\_100 Start: 59480, Stop: 60259, Start Num: 6

Candidate Starts for Xandras\_100:

(Start: 2 @59345 has 6 MA's), (Start: 4 @59399 has 8 MA's), (Start: 5 @59453 has 40 MA's), (Start: 6 @59480 has 67 MA's), (Start: 7 @59498 has 4 MA's), (8, 59582), (9, 59750), (10, 59765), (11, 59786), (12, 59822), (13, 59834), (14, 59867), (15, 59951), (16, 59957), (17, 59966), (18, 59978), (19, 60002), (20, 60038), (21, 60092), (22, 60095), (23, 60209), (24, 60242),

Gene: YassJohnny\_98 Start: 58773, Stop: 59579, Start Num: 5

Candidate Starts for YassJohnny\_98:

(1, 58587), (Start: 2 @58665 has 6 MA's), (Start: 4 @58719 has 8 MA's), (Start: 5 @58773 has 40 MA's), (Start: 6 @58800 has 67 MA's), (Start: 7 @58818 has 4 MA's), (8, 58902), (9, 59070), (10, 59085), (11, 59106), (12, 59142), (13, 59154), (14, 59187), (15, 59271), (16, 59277), (17, 59286), (18, 59298), (19, 59322), (20, 59358), (21, 59412), (22, 59415), (23, 59529), (24, 59562),

Gene: Youngblood\_104 Start: 60923, Stop: 61729, Start Num: 5

Candidate Starts for Youngblood\_104:

(1, 60737), (Start: 2 @60815 has 6 MA's), (Start: 4 @60869 has 8 MA's), (Start: 5 @60923 has 40 MA's), (Start: 6 @60950 has 67 MA's), (Start: 7 @60968 has 4 MA's), (8, 61052), (9, 61220), (10, 61235), (11, 61256), (12, 61292), (13, 61304), (14, 61337), (15, 61421), (16, 61427), (17, 61436), (18, 61448), (19, 61472), (20, 61508), (21, 61562), (22, 61565), (23, 61679), (24, 61712),

Gene: xkcd\_104 Start: 61134, Stop: 61913, Start Num: 6

Candidate Starts for xkcd\_104:

(1, 60921), (Start: 2 @60999 has 6 MA's), (Start: 4 @61053 has 8 MA's), (Start: 5 @61107 has 40 MA's), (Start: 6 @61134 has 67 MA's), (Start: 7 @61152 has 4 MA's), (8, 61236), (9, 61404), (10, 61419), (11, 61440), (12, 61476), (13, 61488), (14, 61521), (15, 61605), (16, 61611), (17, 61620), (18, 61632), (19, 61656), (20, 61692), (21, 61746), (22, 61749), (23, 61863), (24, 61896),