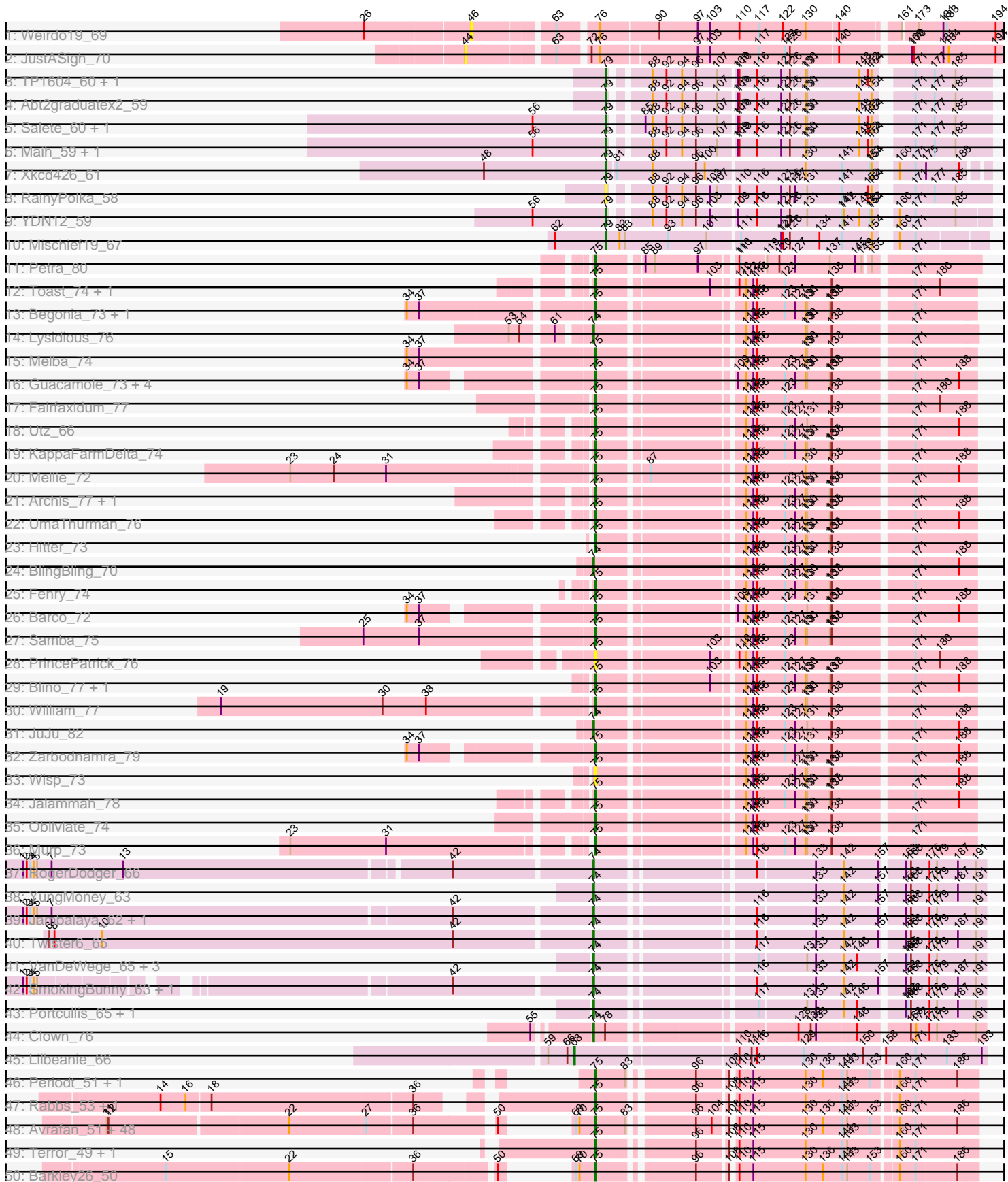
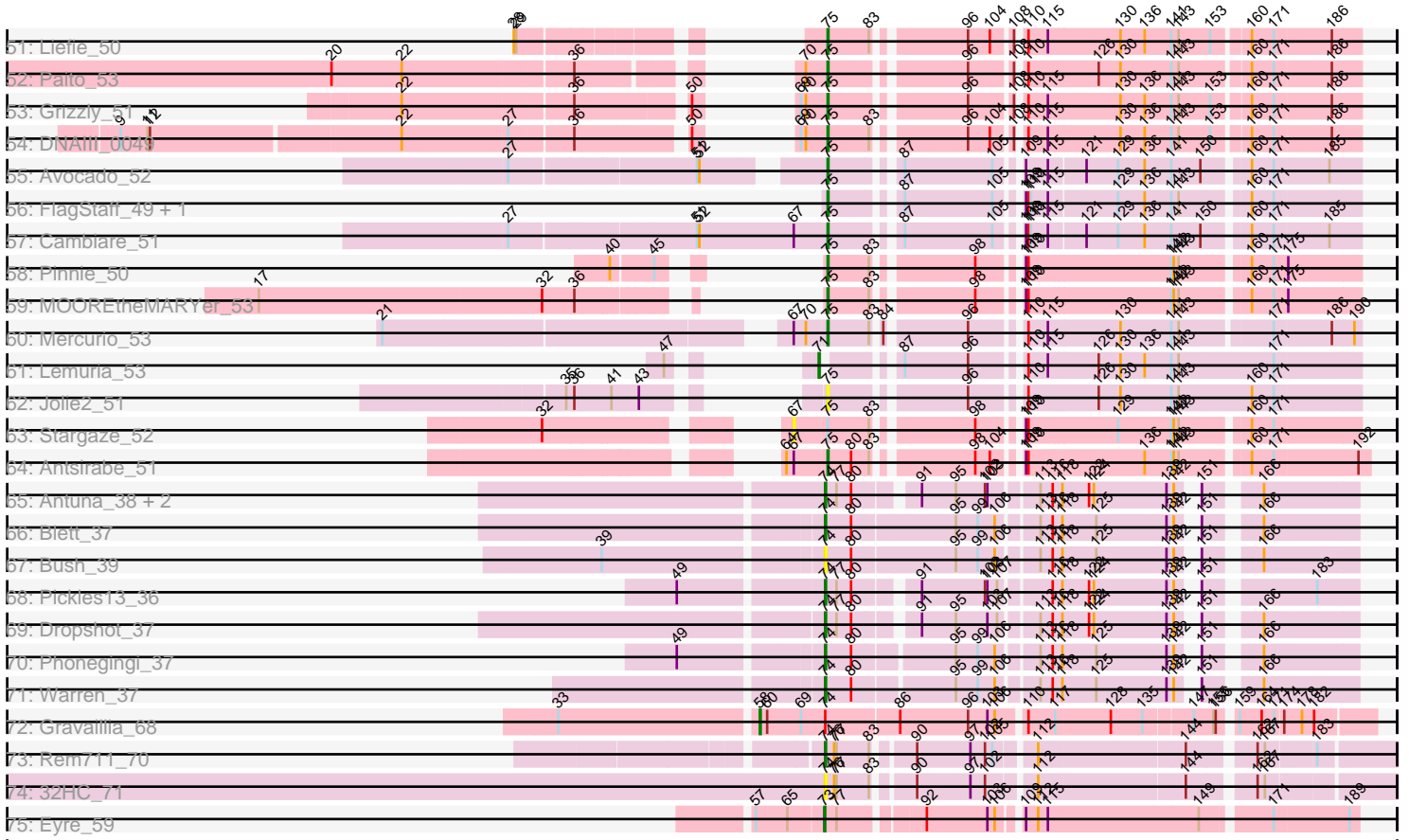


Pham 157657



Pham 157657



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 157657 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157657 has 146 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Weirdo19\_69
- Track 2 : JustASigh\_70
- Track 3 : TP1604\_60, BabyGotBac\_61
- Track 4 : Abt2graduatex2\_59
- Track 5 : Salete\_60, BayC\_60
- Track 6 : Maih\_59, Asis\_60
- Track 7 : Xkcd426\_61
- Track 8 : RainyPolka\_58
- Track 9 : YDN12\_59
- Track 10 : Mischief19\_67
- Track 11 : Petra\_80
- Track 12 : Toast\_74, PCoral7\_74
- Track 13 : Begonia\_73, Malachai\_73
- Track 14 : Lysidious\_76
- Track 15 : Melba\_74
- Track 16 : Guacamole\_73, Delian\_78, MintFen\_75, JasperJr\_73, CaptainKirk2\_75
- Track 17 : Fairfaxidum\_77
- Track 18 : Utz\_66
- Track 19 : KappaFarmDelta\_74
- Track 20 : Mellie\_72
- Track 21 : Archis\_77, ZiggyZoo\_76
- Track 22 : UmaThurman\_76
- Track 23 : Hitter\_73
- Track 24 : BlingBling\_70
- Track 25 : Fenry\_74
- Track 26 : Barco\_72
- Track 27 : Samba\_75
- Track 28 : PrincePatrick\_76
- Track 29 : Blino\_77, CarolAnn\_76
- Track 30 : William\_77
- Track 31 : JuJu\_82
- Track 32 : Zarbodnamra\_79
- Track 33 : Wisp\_73
- Track 34 : Jalammah\_78
- Track 35 : Obliviate\_74
- Track 36 : Murp\_73
- Track 37 : RogerDodger\_66

- Track 38 : YungMoney\_63
- Track 39 : Jambalaya\_62, Savbucketdawg\_62
- Track 40 : Twister6\_65
- Track 41 : VanDeWege\_65, Valary\_64, Gezellig\_64, Wizard\_61
- Track 42 : SmokingBunny\_63, Togo\_62
- Track 43 : Portcullis\_65, Halo3\_62
- Track 44 : Clown\_76
- Track 45 : Lilbeanie\_66
- Track 46 : Periodt\_51, Jolene\_51
- Track 47 : Rabbs\_53, Sneeze\_52
- Track 48 : Avrafan\_51, Sizemore\_51, Frosty24\_51, Olga\_51, Zombie\_50, Phish\_50, Hotshotbaby7\_51, BPs\_51, Kareem\_51, BruceB\_51, Aroostook\_51, Marmie\_51, Hope\_51, Plagueis\_51, JorRay\_51, Gideon\_52, Cedasite\_51, Cherrybomb426\_51, Annihilator\_51, Phreak\_51, Mowgli\_51, Renaissance\_51, GoldenAsh\_50, Remy19\_51, Darionha\_51, Crespo\_50, Shaboishabazz\_50, CLED96\_51, Gomashi\_50, Camri\_51, PinkYoshi\_51, LouisV14\_53, BQuat\_51, ZoMa\_49, Jane\_51, Peeb\_50, CassieYates\_51, TomBrady\_51, Coleslaw\_51, OctaviousRex\_50, Angel\_51, Sweets\_50, Kasen3\_51, DMoney\_50, ECartman\_49, Schiebel\_51, Halo\_51, Jonghyun\_49, Chance64\_51
- Track 49 : Terror\_49, Taheera\_49
- Track 50 : Barkley26\_50
- Track 51 : Liefie\_50
- Track 52 : Paito\_53
- Track 53 : Grizzly\_51
- Track 54 : DNAlll\_0049
- Track 55 : Avocado\_52
- Track 56 : FlagStaff\_49, Pace1224\_50
- Track 57 : Cambiare\_51
- Track 58 : Pinnie\_50
- Track 59 : MOOREtheMARYer\_53
- Track 60 : Mercurio\_53
- Track 61 : Lemuria\_53
- Track 62 : Jolie2\_51
- Track 63 : Stargaze\_52
- Track 64 : Antsirabe\_51
- Track 65 : Antuna\_38, MenE\_41, Appa\_37
- Track 66 : Blett\_37
- Track 67 : Bush\_39
- Track 68 : Pickles13\_36
- Track 69 : Dropshot\_37
- Track 70 : Phonegingi\_37
- Track 71 : Warren\_37
- Track 72 : Gravallia\_68
- Track 73 : Rem711\_70
- Track 74 : 32HC\_71
- Track 75 : Eyre\_59

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

The start number called the most often in the published annotations is 75, it was called in 94 of the 132 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angel\_51, Annihilator\_51, Antsirabe\_51, Archis\_77, Aroostook\_51, Avocado\_52, Avrafan\_51, BPs\_51, BQuat\_51, Barco\_72, Barkley26\_50, Begonia\_73, Blino\_77, BruceB\_51, CLED96\_51, Cambiare\_51, Camri\_51, CaptainKirk2\_75, CarolAnn\_76, CassieYates\_51, Cedasite\_51, Chance64\_51, Cherrybomb426\_51, Coleslaw\_51, Crespo\_50, DMoney\_50, DNAIII\_0049, Darionha\_51, Delian\_78, ECartman\_49, Fairfaxidum\_77, Fenry\_74, FlagStaff\_49, Frosty24\_51, Gideon\_52, GoldenAsh\_50, Gomashi\_50, Grizzly\_51, Guacamole\_73, Halo\_51, Hitter\_73, Hope\_51, Hotshotbaby7\_51, Jalammah\_78, Jane\_51, JasperJr\_73, Jolene\_51, Jolie2\_51, Jonghyun\_49, JorRay\_51, KappaFarmDelta\_74, Kareem\_51, Kasen3\_51, Liefie\_50, LouisV14\_53, MOOREtheMARYer\_53, Malachai\_73, Marmie\_51, Melba\_74, Mellie\_72, Mercurio\_53, MintFen\_75, Mowgli\_51, Murp\_73, Obliviate\_74, OctaviousRex\_50, Olga\_51, PCoral7\_74, Pace1224\_50, Paito\_53, Peeb\_50, Periodt\_51, Petra\_80, Phish\_50, Phreak\_51, PinkYoshi\_51, Pinnie\_50, Plagueis\_51, PrincePatrick\_76, Rabbs\_53, Remy19\_51, Renaissance\_51, Samba\_75, Schiebel\_51, ShaboiShabazz\_50, Sizemore\_51, Sneeze\_52, Sweets\_50, Taheera\_49, Terror\_49, Toast\_74, TomBrady\_51, UmaThurman\_76, Utz\_66, William\_77, Wisp\_73, Zarbodnamra\_79, ZiggyZoo\_76, ZoMa\_49, Zombie\_50,

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

- Stargaze\_52,

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

- 32HC\_71, Abt2graduatex2\_59, Antuna\_38, Appa\_37, Asis\_60, BabyGotBac\_61, BayC\_60, Blett\_37, BlingBling\_70, Bush\_39, Clown\_76, Dropshot\_37, Eyre\_59, Gezellig\_64, Gravaiilla\_68, Halo3\_62, Jambalaya\_62, JuJu\_82, JustASigh\_70, Lemuria\_53, Lilbeanie\_66, Lysidious\_76, Maih\_59, MenE\_41, Mischief19\_67, Phonegingi\_37, Pickles13\_36, Portcullis\_65, RainyPolka\_58, Rem711\_70, RogerDodger\_66, Salete\_60, Savbucketdawg\_62, SmokingBunny\_63, TP1604\_60, Togo\_62, Twister6\_65, Valary\_64, VanDeWege\_65, Warren\_37, Weirdo19\_69, Wizard\_61, Xkcd426\_61, YDN12\_59, YungMoney\_63,

### Summary by start number:

Start 44:

- Found in 1 of 146 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh\_70 (AH),

Start 46:

- Found in 1 of 146 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Weirdo19\_69 (AH),

Start 58:

- Found in 1 of 146 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Gravallia\_68 (Q),

#### Start 67:

- Found in 4 of 146 ( 2.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Stargaze\_52 (G5),

#### Start 68:

- Found in 1 of 146 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lilbeanie\_66 (DE5),

#### Start 71:

- Found in 1 of 146 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lemuria\_53 (G4),

#### Start 73:

- Found in 1 of 146 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Eyre\_59 (singleton),

#### Start 74:

- Found in 29 of 146 ( 19.9% ) of genes in pham
- Manual Annotations of this start: 24 of 132
- Called 96.6% of time when present
- Phage (with cluster) where this start called: 32HC\_71 (Z), Antuna\_38 (GA), Appa\_37 (GA), Blett\_37 (GA), BlingBling\_70 (CV), Bush\_39 (GA), Clown\_76 (DC2), Dropshot\_37 (GA), Gezellig\_64 (DC1), Halo3\_62 (DC1), Jambalaya\_62 (DC1), JuJu\_82 (CV), Lysidious\_76 (CV), MenE\_41 (GA), Phonegingi\_37 (GA), Pickles13\_36 (GA), Portcullis\_65 (DC1), Rem711\_70 (Z), RogerDodger\_66 (DC1), Savbucketdawg\_62 (DC1), SmokingBunny\_63 (DC1), Togo\_62 (DC1), Twister6\_65 (DC1), Valary\_64 (DC1), VanDeWege\_65 (DC1), Warren\_37 (GA), Wizard\_61 (DC1), YungMoney\_63 (DC1),

#### Start 75:

- Found in 101 of 146 ( 69.2% ) of genes in pham
- Manual Annotations of this start: 94 of 132
- Called 99.0% of time when present
- Phage (with cluster) where this start called: Angel\_51 (G1), Annihilator\_51 (G1), Antsirabe\_51 (G5), Archis\_77 (CV), Aroostook\_51 (G1), Avocado\_52 (G2), Avrafan\_51 (G1), BPs\_51 (G1), BQuat\_51 (G1), Barco\_72 (CV), Barkley26\_50 (G1), Begonia\_73 (CV), Blino\_77 (CV), BruceB\_51 (G1), CLÉD96\_51 (G1), Cambiare\_51 (G2), Camri\_51 (G1), CaptainKirk2\_75 (CV), CarolAnn\_76 (CV), CassieYates\_51 (G1), Cedasite\_51 (G1), Chance64\_51 (G1), Cherrybomb426\_51 (G1), Coleslaw\_51 (G1), Crespo\_50 (G1), DMoney\_50 (G1), DNAllI\_0049 (G1), Darionha\_51 (G1), Delian\_78 (CV), ECartman\_49 (G1), Fairfaxidum\_77 (CV), Fenry\_74 (CV), FlagStaff\_49 (G2), Frosty24\_51 (G1), Gideon\_52 (G1), GoldenAsh\_50 (G1), Gomashi\_50 (G1), Grizzly\_51 (G1), Guacamole\_73 (CV), Halo\_51 (G1), Hitter\_73

(CV), Hope\_51 (G1), Hotshotbaby7\_51 (G1), Jalammah\_78 (CV), Jane\_51 (G1), JasperJr\_73 (CV), Jolene\_51 (G1), Jolie2\_51 (G4), Jonghyun\_49 (G1), JorRay\_51 (G1), KappaFarmDelta\_74 (CV), Kareem\_51 (G1), Kasen3\_51 (G1), Liefie\_50 (G1), LouisV14\_53 (G1), MOOREtheMARYer\_53 (G3), Malachai\_73 (CV), Marmie\_51 (G1), Melba\_74 (CV), Mellie\_72 (CV), Mercurio\_53 (G4), MintFen\_75 (CV), Mowgli\_51 (G1), Murp\_73 (CV), Obliviate\_74 (CV), OctaviousRex\_50 (G1), Olga\_51 (G1), PCoral7\_74 (CV), Pace1224\_50 (G2), Paito\_53 (G1), Peeb\_50 (G1), Periodt\_51 (G1), Petra\_80 (CV), Phish\_50 (G1), Phreak\_51 (G1), PinkYoshi\_51 (G1), Pinnie\_50 (G3), Plagueis\_51 (G1), PrincePatrick\_76 (CV), Rabbs\_53 (G1), Remy19\_51 (G1), Renaissance\_51 (G1), Samba\_75 (CV), Schiebel\_51 (G1), ShaboiShabazz\_50 (G1), Sizemore\_51 (G1), Sneeze\_52 (G1), Sweets\_50 (G1), Taheera\_49 (G1), Terror\_49 (G1), Toast\_74 (CV), TomBrady\_51 (G1), UmaThurman\_76 (CV), Utz\_66 (CV), William\_77 (CV), Wisp\_73 (CV), Zarbodnamra\_79 (CV), ZiggyZoo\_76 (CV), ZoMa\_49 (G1), Zombie\_50 (G1),

Start 79:

- Found in 11 of 146 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 10 of 132
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abt2graduatex2\_59 (BG), Asis\_60 (BG), BabyGotBac\_61 (BG), BayC\_60 (BG), Maih\_59 (BG), Mischief19\_67 (BG), RainyPolka\_58 (BG), Salete\_60 (BG), TP1604\_60 (BG), Xkcd426\_61 (BG), YDN12\_59 (BG),

### Summary by clusters:

There are 15 clusters represented in this pham: G5, BG, G3, G2, G1, AH, DE5, Q, G4, GA, singleton, Z, DC2, CV, DC1,

Info for manual annotations of cluster BG:

- Start number 79 was manually annotated 10 times for cluster BG.

Info for manual annotations of cluster CV:

- Start number 74 was manually annotated 3 times for cluster CV.
- Start number 75 was manually annotated 29 times for cluster CV.

Info for manual annotations of cluster DC1:

- Start number 74 was manually annotated 12 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 74 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE5:

- Start number 68 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster G1:

- Start number 75 was manually annotated 58 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 75 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 75 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 71 was manually annotated 1 time for cluster G4.
- Start number 75 was manually annotated 1 time for cluster G4.

Info for manual annotations of cluster G5:

- Start number 75 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster GA:

- Start number 74 was manually annotated 7 times for cluster GA.

Info for manual annotations of cluster Q:

- Start number 58 was manually annotated 1 time for cluster Q.

Info for manual annotations of cluster Z:

- Start number 74 was manually annotated 1 time for cluster Z.

### **Gene Information:**

Gene: 32HC\_71 Start: 43501, Stop: 44121, Start Num: 74

Candidate Starts for 32HC\_71:

(Start: 74 @43501 has 24 MA's), (76, 43510), (77, 43513), (83, 43552), (90, 43591), (97, 43657), (102, 43675), (112, 43726), (144, 43900), (162, 43969), (167, 43978),

Gene: Abt2graduatex2\_59 Start: 48650, Stop: 49240, Start Num: 79

Candidate Starts for Abt2graduatex2\_59:

(Start: 79 @48650 has 10 MA's), (88, 48701), (92, 48725), (94, 48752), (96, 48776), (107, 48809), (109, 48836), (110, 48839), (116, 48869), (121, 48908), (126, 48923), (130, 48950), (131, 48953), (148, 49043), (154, 49064), (171, 49112), (177, 49142), (185, 49178),

Gene: Angel\_51 Start: 36899, Stop: 37489, Start Num: 75

Candidate Starts for Angel\_51:

(11, 36227), (12, 36230), (22, 36521), (27, 36650), (36, 36722), (50, 36845), (69, 36866), (70, 36872), (Start: 75 @36899 has 94 MA's), (83, 36947), (96, 37043), (104, 37070), (108, 37091), (110, 37097), (115, 37121), (130, 37208), (136, 37238), (141, 37271), (143, 37280), (153, 37319), (160, 37358), (171, 37385), (186, 37454),

Gene: Annihilator\_51 Start: 36905, Stop: 37495, Start Num: 75

Candidate Starts for Annihilator\_51:

(11, 36233), (12, 36236), (22, 36527), (27, 36656), (36, 36728), (50, 36851), (69, 36872), (70, 36878), (Start: 75 @36905 has 94 MA's), (83, 36953), (96, 37049), (104, 37076), (108, 37097), (110, 37103), (115, 37127), (130, 37214), (136, 37244), (141, 37277), (143, 37286), (153, 37325), (160, 37364), (171, 37391), (186, 37460),

Gene: Antsirabe\_51 Start: 38179, Stop: 38778, Start Num: 75

Candidate Starts for Antsirabe\_51:

(64, 38131), (67, 38140), (Start: 75 @38179 has 94 MA's), (80, 38206), (83, 38227), (98, 38332), (104, 38350), (109, 38374), (110, 38377), (136, 38518), (141, 38551), (142, 38554), (143, 38560), (160, 38635), (171, 38662), (192, 38764),



Gene: Antuna\_38 Start: 22691, Stop: 23254, Start Num: 74

Candidate Starts for Antuna\_38:

(Start: 74 @22691 has 24 MA's), (77, 22703), (80, 22721), (91, 22784), (95, 22826), (102, 22862), (103, 22865), (113, 22916), (116, 22931), (118, 22943), (122, 22976), (124, 22982), (139, 23072), (142, 23078), (151, 23090), (166, 23144),

Gene: Appa\_37 Start: 22568, Stop: 23131, Start Num: 74

Candidate Starts for Appa\_37:

(Start: 74 @22568 has 24 MA's), (77, 22580), (80, 22598), (91, 22661), (95, 22703), (102, 22739), (103, 22742), (113, 22793), (116, 22808), (118, 22820), (122, 22853), (124, 22859), (139, 22949), (142, 22955), (151, 22967), (166, 23021),

Gene: Archis\_77 Start: 45860, Stop: 46450, Start Num: 75

Candidate Starts for Archis\_77:

(Start: 75 @45860 has 94 MA's), (112, 46082), (115, 46094), (116, 46100), (123, 46145), (127, 46163), (130, 46181), (131, 46184), (137, 46223), (138, 46226), (171, 46352),

Gene: Aroostook\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Aroostook\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Asis\_60 Start: 48756, Stop: 49346, Start Num: 79

Candidate Starts for Asis\_60:

(56, 48633), (Start: 79 @48756 has 10 MA's), (88, 48807), (92, 48831), (94, 48858), (96, 48882), (107, 48915), (109, 48942), (110, 48945), (116, 48975), (121, 49014), (126, 49029), (130, 49056), (131, 49059), (148, 49149), (152, 49164), (154, 49170), (171, 49218), (177, 49248), (185, 49284),

Gene: Avocado\_52 Start: 39158, Stop: 39742, Start Num: 75

Candidate Starts for Avocado\_52:

(27, 38822), (51, 39035), (52, 39038), (Start: 75 @39158 has 94 MA's), (87, 39224), (105, 39332), (109, 39353), (115, 39380), (121, 39422), (129, 39461), (136, 39494), (141, 39527), (150, 39563), (160, 39611), (171, 39638), (185, 39704),

Gene: Avrafan\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Avrafan\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: BPs\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for BPs\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: BQuat\_51 Start: 37351, Stop: 37941, Start Num: 75

Candidate Starts for BQuat\_51:

(11, 36679), (12, 36682), (22, 36973), (27, 37102), (36, 37174), (50, 37297), (69, 37318), (70, 37324), (Start: 75 @37351 has 94 MA's), (83, 37399), (96, 37495), (104, 37522), (108, 37543), (110, 37549), (115, 37573), (130, 37660), (136, 37690), (141, 37723), (143, 37732), (153, 37771), (160, 37810), (171, 37837), (186, 37906),

Gene: BabyGotBac\_61 Start: 48762, Stop: 49352, Start Num: 79

Candidate Starts for BabyGotBac\_61:

(Start: 79 @48762 has 10 MA's), (88, 48813), (92, 48837), (94, 48864), (96, 48888), (107, 48921), (109, 48948), (110, 48951), (116, 48981), (121, 49020), (126, 49035), (130, 49062), (131, 49065), (148, 49155), (152, 49170), (154, 49176), (171, 49224), (177, 49254), (185, 49290),

Gene: Barco\_72 Start: 45671, Stop: 46261, Start Num: 75

Candidate Starts for Barco\_72:

(34, 45398), (37, 45419), (Start: 75 @45671 has 94 MA's), (109, 45878), (112, 45893), (115, 45905), (116, 45911), (123, 45956), (131, 45995), (137, 46034), (138, 46037), (171, 46163), (188, 46235),

Gene: Barkley26\_50 Start: 36819, Stop: 37409, Start Num: 75

Candidate Starts for Barkley26\_50:

(15, 36237), (22, 36438), (36, 36639), (50, 36765), (69, 36786), (70, 36792), (Start: 75 @36819 has 94 MA's), (96, 36963), (108, 37011), (110, 37017), (115, 37041), (130, 37128), (136, 37158), (141, 37191), (143, 37200), (153, 37239), (160, 37278), (171, 37305), (186, 37374),

Gene: BayC\_60 Start: 48760, Stop: 49350, Start Num: 79

Candidate Starts for BayC\_60:

(56, 48637), (Start: 79 @48760 has 10 MA's), (85, 48799), (88, 48811), (92, 48835), (94, 48862), (96, 48886), (107, 48919), (109, 48946), (110, 48949), (116, 48979), (121, 49018), (126, 49033), (130, 49060), (131, 49063), (148, 49153), (152, 49168), (154, 49174), (171, 49222), (177, 49252), (185, 49288),

Gene: Begonia\_73 Start: 48471, Stop: 49061, Start Num: 75

Candidate Starts for Begonia\_73:

(34, 48171), (37, 48192), (Start: 75 @48471 has 94 MA's), (112, 48693), (115, 48705), (116, 48711), (123, 48756), (127, 48774), (130, 48792), (131, 48795), (137, 48834), (138, 48837), (171, 48963),

Gene: Blett\_37 Start: 22730, Stop: 23311, Start Num: 74

Candidate Starts for Blett\_37:

(Start: 74 @22730 has 24 MA's), (80, 22760), (95, 22883), (99, 22910), (106, 22931), (113, 22973), (116, 22988), (118, 23000), (125, 23042), (139, 23129), (142, 23135), (151, 23147), (166, 23201),

Gene: BlingBling\_70 Start: 45443, Stop: 46036, Start Num: 74

Candidate Starts for BlingBling\_70:

(Start: 74 @45443 has 24 MA's), (112, 45668), (115, 45680), (116, 45686), (123, 45731), (127, 45749), (130, 45767), (131, 45770), (138, 45812), (171, 45938), (188, 46010),

Gene: Blino\_77 Start: 51275, Stop: 51865, Start Num: 75

Candidate Starts for Blino\_77:

(Start: 75 @51275 has 94 MA's), (103, 51452), (112, 51497), (115, 51509), (116, 51515), (123, 51560), (127, 51578), (130, 51596), (131, 51599), (137, 51638), (138, 51641), (171, 51767), (188, 51839),

Gene: BruceB\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for BruceB\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Bush\_39 Start: 22678, Stop: 23259, Start Num: 74

Candidate Starts for Bush\_39:

(39, 22423), (Start: 74 @22678 has 24 MA's), (80, 22708), (95, 22831), (99, 22858), (106, 22879), (113, 22921), (116, 22936), (118, 22948), (125, 22990), (139, 23077), (142, 23083), (151, 23095), (166, 23149),

Gene: CLED96\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for CLED96\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Cambiare\_51 Start: 38958, Stop: 39542, Start Num: 75

Candidate Starts for Cambiare\_51:

(27, 38583), (51, 38796), (52, 38799), (67, 38916), (Start: 75 @38958 has 94 MA's), (87, 39024), (105, 39132), (109, 39153), (110, 39156), (111, 39159), (115, 39180), (121, 39222), (129, 39261), (136, 39294), (141, 39327), (150, 39363), (160, 39411), (171, 39438), (185, 39504),

Gene: Camri\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Camri\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: CaptainKirk2\_75 Start: 45228, Stop: 45818, Start Num: 75

Candidate Starts for CaptainKirk2\_75:

(34, 44955), (37, 44976), (Start: 75 @45228 has 94 MA's), (109, 45435), (112, 45450), (115, 45462), (116, 45468), (123, 45513), (127, 45531), (130, 45549), (131, 45552), (137, 45591), (138, 45594), (171, 45720), (188, 45792),

Gene: CarolAnn\_76 Start: 51274, Stop: 51864, Start Num: 75

Candidate Starts for CarolAnn\_76:

(Start: 75 @51274 has 94 MA's), (103, 51451), (112, 51496), (115, 51508), (116, 51514), (123, 51559), (127, 51577), (130, 51595), (131, 51598), (137, 51637), (138, 51640), (171, 51766), (188, 51838),

Gene: CassieYates\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for CassieYates\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Cedasite\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Cedasite\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Chance64\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Chance64\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Cherrybomb426\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Cherrybomb426\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Clown\_76 Start: 51335, Stop: 51934, Start Num: 74

Candidate Starts for Clown\_76:

(55, 51254), (Start: 74 @51335 has 24 MA's), (78, 51353), (128, 51635), (132, 51656), (133, 51665), (146, 51731), (168, 51809), (172, 51818), (176, 51839), (179, 51851), (191, 51917),

Gene: Coleslaw\_51 Start: 37351, Stop: 37941, Start Num: 75

Candidate Starts for Coleslaw\_51:

(11, 36679), (12, 36682), (22, 36973), (27, 37102), (36, 37174), (50, 37297), (69, 37318), (70, 37324), (Start: 75 @37351 has 94 MA's), (83, 37399), (96, 37495), (104, 37522), (108, 37543), (110, 37549), (115, 37573), (130, 37660), (136, 37690), (141, 37723), (143, 37732), (153, 37771), (160, 37810), (171, 37837), (186, 37906),

Gene: Crespo\_50 Start: 36915, Stop: 37505, Start Num: 75

Candidate Starts for Crespo\_50:

(11, 36243), (12, 36246), (22, 36537), (27, 36666), (36, 36738), (50, 36861), (69, 36882), (70, 36888), (Start: 75 @36915 has 94 MA's), (83, 36963), (96, 37059), (104, 37086), (108, 37107), (110, 37113), (115, 37137), (130, 37224), (136, 37254), (141, 37287), (143, 37296), (153, 37335), (160, 37374), (171, 37401), (186, 37470),

Gene: DMoney\_50 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for DMoney\_50:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: DNAIII\_0049 Start: 35449, Stop: 36039, Start Num: 75

Candidate Starts for DNAIII\_0049:

(9, 34744), (11, 34777), (12, 34780), (22, 35071), (27, 35200), (36, 35272), (50, 35395), (69, 35416), (70, 35422), (Start: 75 @35449 has 94 MA's), (83, 35497), (96, 35593), (104, 35620), (108, 35641), (110, 35647), (115, 35671), (130, 35758), (136, 35788), (141, 35821), (143, 35830), (153, 35869), (160, 35908), (171, 35935), (186, 36004),

Gene: Darionha\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Darionha\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Delian\_78 Start: 45226, Stop: 45816, Start Num: 75

Candidate Starts for Delian\_78:

(34, 44953), (37, 44974), (Start: 75 @45226 has 94 MA's), (109, 45433), (112, 45448), (115, 45460), (116, 45466), (123, 45511), (127, 45529), (130, 45547), (131, 45550), (137, 45589), (138, 45592), (171, 45718), (188, 45790),

Gene: Dropshot\_37 Start: 22403, Stop: 22966, Start Num: 74

Candidate Starts for Dropshot\_37:

(Start: 74 @22403 has 24 MA's), (77, 22415), (80, 22433), (91, 22496), (95, 22538), (103, 22577), (107, 22589), (113, 22628), (116, 22643), (118, 22655), (122, 22688), (124, 22694), (139, 22784), (142, 22790), (151, 22802), (166, 22856),

Gene: ECartman\_49 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for ECartman\_49:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Eyre\_59 Start: 38628, Stop: 39218, Start Num: 73

Candidate Starts for Eyre\_59:

(57, 38547), (65, 38586), (Start: 73 @38628 has 1 MA's), (77, 38640), (92, 38730), (103, 38805), (106, 38814), (109, 38835), (112, 38850), (115, 38862), (149, 39042), (171, 39117), (189, 39207),

Gene: Fairfaxidum\_77 Start: 47701, Stop: 48291, Start Num: 75

Candidate Starts for Fairfaxidum\_77:

(Start: 75 @47701 has 94 MA's), (112, 47923), (115, 47935), (116, 47941), (123, 47986), (138, 48067), (171, 48193), (180, 48232),

Gene: Fenry\_74 Start: 47299, Stop: 47889, Start Num: 75

Candidate Starts for Fenry\_74:

(Start: 75 @47299 has 94 MA's), (112, 47521), (115, 47533), (116, 47539), (123, 47584), (127, 47602), (130, 47620), (131, 47623), (137, 47662), (138, 47665), (171, 47791),

Gene: FlagStaff\_49 Start: 37465, Stop: 38049, Start Num: 75

Candidate Starts for FlagStaff\_49:

(Start: 75 @37465 has 94 MA's), (87, 37531), (105, 37639), (109, 37660), (110, 37663), (111, 37666), (115, 37687), (129, 37768), (136, 37801), (141, 37834), (143, 37843), (160, 37918), (171, 37945),

Gene: Frosty24\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Frosty24\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Gezellig\_64 Start: 47082, Stop: 47684, Start Num: 74

Candidate Starts for Gezellig\_64:

(Start: 74 @47082 has 24 MA's), (117, 47322), (131, 47400), (133, 47415), (142, 47460), (146, 47481), (163, 47550), (165, 47553), (168, 47559), (176, 47589), (179, 47601), (191, 47667),

Gene: Gideon\_52 Start: 37361, Stop: 37951, Start Num: 75

Candidate Starts for Gideon\_52:

(11, 36689), (12, 36692), (22, 36983), (27, 37112), (36, 37184), (50, 37307), (69, 37328), (70, 37334), (Start: 75 @37361 has 94 MA's), (83, 37409), (96, 37505), (104, 37532), (108, 37553), (110, 37559), (115, 37583), (130, 37670), (136, 37700), (141, 37733), (143, 37742), (153, 37781), (160, 37820), (171, 37847), (186, 37916),

Gene: GoldenAsh\_50 Start: 36899, Stop: 37489, Start Num: 75

Candidate Starts for GoldenAsh\_50:

(11, 36227), (12, 36230), (22, 36521), (27, 36650), (36, 36722), (50, 36845), (69, 36866), (70, 36872), (Start: 75 @36899 has 94 MA's), (83, 36947), (96, 37043), (104, 37070), (108, 37091), (110, 37097), (115, 37121), (130, 37208), (136, 37238), (141, 37271), (143, 37280), (153, 37319), (160, 37358), (171, 37385), (186, 37454),

Gene: Gomashi\_50 Start: 36915, Stop: 37505, Start Num: 75

Candidate Starts for Gomashi\_50:

(11, 36243), (12, 36246), (22, 36537), (27, 36666), (36, 36738), (50, 36861), (69, 36882), (70, 36888), (Start: 75 @36915 has 94 MA's), (83, 36963), (96, 37059), (104, 37086), (108, 37107), (110, 37113), (115, 37137), (130, 37224), (136, 37254), (141, 37287), (143, 37296), (153, 37335), (160, 37374), (171, 37401), (186, 37470),

Gene: Gravallia\_68 Start: 48220, Stop: 48912, Start Num: 58

Candidate Starts for Gravallia\_68:

(33, 47983), (Start: 58 @48220 has 1 MA's), (60, 48229), (69, 48271), (Start: 74 @48301 has 24 MA's), (86, 48382), (96, 48466), (103, 48490), (106, 48499), (110, 48529), (117, 48562), (128, 48628), (135, 48664), (147, 48718), (155, 48742), (156, 48745), (159, 48760), (164, 48787), (171, 48802), (174, 48811), (178, 48829), (182, 48844),

Gene: Grizzly\_51 Start: 36986, Stop: 37576, Start Num: 75

Candidate Starts for Grizzly\_51:

(22, 36608), (36, 36809), (50, 36932), (69, 36953), (70, 36959), (Start: 75 @36986 has 94 MA's), (96, 37130), (108, 37178), (110, 37184), (115, 37208), (130, 37295), (136, 37325), (141, 37358), (143, 37367), (153, 37406), (160, 37445), (171, 37472), (186, 37541),

Gene: Guacamole\_73 Start: 46646, Stop: 47236, Start Num: 75

Candidate Starts for Guacamole\_73:

(34, 46373), (37, 46394), (Start: 75 @46646 has 94 MA's), (109, 46853), (112, 46868), (115, 46880), (116, 46886), (123, 46931), (127, 46949), (130, 46967), (131, 46970), (137, 47009), (138, 47012), (171, 47138), (188, 47210),

Gene: Halo\_51 Start: 36909, Stop: 37499, Start Num: 75

Candidate Starts for Halo\_51:

(11, 36237), (12, 36240), (22, 36531), (27, 36660), (36, 36732), (50, 36855), (69, 36876), (70, 36882), (Start: 75 @36909 has 94 MA's), (83, 36957), (96, 37053), (104, 37080), (108, 37101), (110, 37107), (115, 37131), (130, 37218), (136, 37248), (141, 37281), (143, 37290), (153, 37329), (160, 37368), (171, 37395), (186, 37464),

Gene: Halo3\_62 Start: 47667, Stop: 48269, Start Num: 74

Candidate Starts for Halo3\_62:

(Start: 74 @47667 has 24 MA's), (117, 47907), (131, 47985), (133, 48000), (142, 48045), (146, 48066), (163, 48135), (165, 48138), (168, 48144), (176, 48174), (179, 48186), (187, 48222), (191, 48252),

Gene: Hitter\_73 Start: 44905, Stop: 45495, Start Num: 75

Candidate Starts for Hitter\_73:

(Start: 75 @44905 has 94 MA's), (112, 45127), (115, 45139), (116, 45145), (123, 45190), (127, 45208), (130, 45226), (131, 45229), (137, 45268), (138, 45271), (171, 45397),

Gene: Hope\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Hope\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Hotshotbaby7\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Hotshotbaby7\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Jalammah\_78 Start: 48811, Stop: 49401, Start Num: 75

Candidate Starts for Jalammah\_78:

(Start: 75 @48811 has 94 MA's), (112, 49033), (115, 49045), (116, 49051), (123, 49096), (127, 49114), (130, 49132), (131, 49135), (137, 49174), (138, 49177), (171, 49303), (188, 49375),

Gene: Jambalaya\_62 Start: 46938, Stop: 47537, Start Num: 74

Candidate Starts for Jambalaya\_62:

(1, 45984), (2, 45990), (3, 45996), (4, 46002), (5, 46008), (7, 46032), (42, 46710), (Start: 74 @46938 has 24 MA's), (116, 47172), (133, 47268), (142, 47313), (157, 47370), (163, 47403), (168, 47412), (176, 47442), (179, 47454), (191, 47520),

Gene: Jane\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Jane\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: JasperJr\_73 Start: 46646, Stop: 47236, Start Num: 75

Candidate Starts for JasperJr\_73:

(34, 46373), (37, 46394), (Start: 75 @46646 has 94 MA's), (109, 46853), (112, 46868), (115, 46880), (116, 46886), (123, 46931), (127, 46949), (130, 46967), (131, 46970), (137, 47009), (138, 47012), (171, 47138), (188, 47210),

Gene: Jolene\_51 Start: 37076, Stop: 37666, Start Num: 75

Candidate Starts for Jolene\_51:

(Start: 75 @37076 has 94 MA's), (83, 37124), (96, 37220), (108, 37268), (110, 37274), (115, 37298), (130, 37385), (136, 37415), (141, 37448), (143, 37457), (153, 37496), (160, 37535), (171, 37562), (186, 37631),

Gene: Jolie2\_51 Start: 38020, Stop: 38622, Start Num: 75

Candidate Starts for Jolie2\_51:

(35, 37849), (36, 37858), (41, 37903), (43, 37936), (Start: 75 @38020 has 94 MA's), (96, 38164), (110, 38218), (126, 38302), (130, 38329), (141, 38392), (143, 38401), (160, 38491), (171, 38518),

Gene: Jonghyun\_49 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Jonghyun\_49:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: JorRay\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for JorRay\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: JuJu\_82 Start: 50269, Stop: 50862, Start Num: 74

Candidate Starts for JuJu\_82:

(Start: 74 @50269 has 24 MA's), (112, 50494), (115, 50506), (116, 50512), (123, 50557), (127, 50575), (131, 50596), (138, 50638), (171, 50764), (188, 50836),

Gene: JustASigh\_70 Start: 44678, Stop: 45514, Start Num: 44

Candidate Starts for JustASigh\_70:

(44, 44678), (63, 44810), (72, 44855), (76, 44867), (97, 45023), (103, 45044), (117, 45128), (123, 45170), (126, 45179), (140, 45257), (169, 45365), (170, 45368), (181, 45416), (184, 45425), (194, 45503),

Gene: KappaFarmDelta\_74 Start: 46258, Stop: 46848, Start Num: 75

Candidate Starts for KappaFarmDelta\_74:

(Start: 75 @46258 has 94 MA's), (112, 46480), (115, 46492), (116, 46498), (123, 46543), (127, 46561), (130, 46579), (131, 46582), (137, 46621), (138, 46624), (171, 46750),

Gene: Kareem\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Kareem\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Kasen3\_51 Start: 36900, Stop: 37490, Start Num: 75

Candidate Starts for Kasen3\_51:

(11, 36228), (12, 36231), (22, 36522), (27, 36651), (36, 36723), (50, 36846), (69, 36867), (70, 36873), (Start: 75 @36900 has 94 MA's), (83, 36948), (96, 37044), (104, 37071), (108, 37092), (110, 37098), (115, 37122), (130, 37209), (136, 37239), (141, 37272), (143, 37281), (153, 37320), (160, 37359), (171, 37386), (186, 37455),

Gene: Lemuria\_53 Start: 39211, Stop: 39813, Start Num: 71

Candidate Starts for Lemuria\_53:

(47, 39169), (Start: 71 @39211 has 1 MA's), (87, 39277), (96, 39355), (110, 39409), (115, 39433), (126, 39493), (130, 39520), (136, 39550), (141, 39583), (143, 39592), (171, 39709),



Gene: Liefie\_50 Start: 37020, Stop: 37610, Start Num: 75

Candidate Starts for Liefie\_50:

(28, 36801), (29, 36804), (Start: 75 @37020 has 94 MA's), (83, 37068), (96, 37164), (104, 37191), (108, 37212), (110, 37218), (115, 37242), (130, 37329), (136, 37359), (141, 37392), (143, 37401), (153, 37440), (160, 37479), (171, 37506), (186, 37575),

Gene: Lilbeanie\_66 Start: 45819, Stop: 46490, Start Num: 68

Candidate Starts for Lilbeanie\_66:

(59, 45774), (66, 45807), (Start: 68 @45819 has 1 MA's), (110, 46077), (114, 46098), (116, 46107), (129, 46188), (150, 46287), (158, 46317), (171, 46368), (183, 46422), (193, 46482),

Gene: LouisV14\_53 Start: 39179, Stop: 39769, Start Num: 75

Candidate Starts for LouisV14\_53:

(11, 38507), (12, 38510), (22, 38801), (27, 38930), (36, 39002), (50, 39125), (69, 39146), (70, 39152), (Start: 75 @39179 has 94 MA's), (83, 39227), (96, 39323), (104, 39350), (108, 39371), (110, 39377), (115, 39401), (130, 39488), (136, 39518), (141, 39551), (143, 39560), (153, 39599), (160, 39638), (171, 39665), (186, 39734),

Gene: Lysidious\_76 Start: 47074, Stop: 47670, Start Num: 74

Candidate Starts for Lysidious\_76:

(53, 46966), (54, 46984), (61, 47026), (Start: 74 @47074 has 24 MA's), (112, 47299), (115, 47311), (116, 47317), (130, 47398), (131, 47401), (138, 47443), (171, 47569),

Gene: MOOREtheMARYer\_53 Start: 38622, Stop: 39209, Start Num: 75

Candidate Starts for MOOREtheMARYer\_53:

(17, 38118), (32, 38466), (36, 38505), (Start: 75 @38622 has 94 MA's), (83, 38670), (98, 38775), (109, 38817), (110, 38820), (141, 38994), (142, 38997), (143, 39003), (160, 39078), (171, 39105), (175, 39120),

Gene: Maih\_59 Start: 48773, Stop: 49363, Start Num: 79

Candidate Starts for Maih\_59:

(56, 48650), (Start: 79 @48773 has 10 MA's), (88, 48824), (92, 48848), (94, 48875), (96, 48899), (107, 48932), (109, 48959), (110, 48962), (116, 48992), (121, 49031), (126, 49046), (130, 49073), (131, 49076), (148, 49166), (152, 49181), (154, 49187), (171, 49235), (177, 49265), (185, 49301),

Gene: Malachai\_73 Start: 48471, Stop: 49061, Start Num: 75

Candidate Starts for Malachai\_73:

(34, 48171), (37, 48192), (Start: 75 @48471 has 94 MA's), (112, 48693), (115, 48705), (116, 48711), (123, 48756), (127, 48774), (130, 48792), (131, 48795), (137, 48834), (138, 48837), (171, 48963),

Gene: Marmie\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Marmie\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Melba\_74 Start: 45340, Stop: 45930, Start Num: 75

Candidate Starts for Melba\_74:

(34, 45037), (37, 45058), (Start: 75 @45340 has 94 MA's), (112, 45562), (115, 45574), (116, 45580), (130, 45661), (131, 45664), (138, 45706), (171, 45832),

Gene: Mellie\_72 Start: 45623, Stop: 46213, Start Num: 75

Candidate Starts for Mellie\_72:

(23, 45134), (24, 45209), (31, 45299), (Start: 75 @45623 has 94 MA's), (87, 45698), (112, 45845), (115, 45857), (116, 45863), (130, 45944), (138, 45989), (171, 46115), (188, 46187),

Gene: MenE\_41 Start: 22713, Stop: 23276, Start Num: 74

Candidate Starts for MenE\_41:

(Start: 74 @22713 has 24 MA's), (77, 22725), (80, 22743), (91, 22806), (95, 22848), (102, 22884), (103, 22887), (113, 22938), (116, 22953), (118, 22965), (122, 22998), (124, 23004), (139, 23094), (142, 23100), (151, 23112), (166, 23166),

Gene: Mercurio\_53 Start: 39622, Stop: 40209, Start Num: 75

Candidate Starts for Mercurio\_53:

(21, 39133), (67, 39583), (70, 39598), (Start: 75 @39622 has 94 MA's), (83, 39670), (84, 39676), (96, 39766), (110, 39820), (115, 39841), (130, 39928), (141, 39991), (143, 40000), (171, 40105), (186, 40174), (190, 40201),

Gene: MintFen\_75 Start: 45842, Stop: 46432, Start Num: 75

Candidate Starts for MintFen\_75:

(34, 45569), (37, 45590), (Start: 75 @45842 has 94 MA's), (109, 46049), (112, 46064), (115, 46076), (116, 46082), (123, 46127), (127, 46145), (130, 46163), (131, 46166), (137, 46205), (138, 46208), (171, 46334), (188, 46406),

Gene: Mischief19\_67 Start: 58954, Stop: 59559, Start Num: 79

Candidate Starts for Mischief19\_67:

(62, 58867), (Start: 79 @58954 has 10 MA's), (82, 58978), (83, 58987), (93, 59062), (101, 59128), (111, 59176), (121, 59242), (122, 59245), (126, 59257), (134, 59308), (141, 59347), (154, 59398), (160, 59419), (171, 59446),

Gene: Mowgli\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Mowgli\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Murp\_73 Start: 48722, Stop: 49312, Start Num: 75

Candidate Starts for Murp\_73:

(23, 48254), (31, 48419), (Start: 75 @48722 has 94 MA's), (112, 48944), (115, 48956), (116, 48962), (123, 49007), (127, 49025), (130, 49043), (131, 49046), (138, 49088), (171, 49214),

Gene: Obliviate\_74 Start: 45891, Stop: 46481, Start Num: 75

Candidate Starts for Obliviate\_74:

(Start: 75 @45891 has 94 MA's), (112, 46113), (115, 46125), (116, 46131), (130, 46212), (131, 46215), (138, 46257), (171, 46383),

Gene: OctaviousRex\_50 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for OctaviousRex\_50:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Olga\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Olga\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: PCoral7\_74 Start: 46525, Stop: 47115, Start Num: 75

Candidate Starts for PCoral7\_74:

(Start: 75 @46525 has 94 MA's), (103, 46702), (110, 46735), (112, 46747), (115, 46759), (116, 46765), (123, 46810), (138, 46891), (171, 47017), (180, 47056),

Gene: Pace1224\_50 Start: 37494, Stop: 38078, Start Num: 75

Candidate Starts for Pace1224\_50:

(Start: 75 @37494 has 94 MA's), (87, 37560), (105, 37668), (109, 37689), (110, 37692), (111, 37695), (115, 37716), (129, 37797), (136, 37830), (141, 37863), (143, 37872), (160, 37947), (171, 37974),

Gene: Paito\_53 Start: 37596, Stop: 38186, Start Num: 75

Candidate Starts for Paito\_53:

(20, 37146), (22, 37230), (36, 37431), (70, 37569), (Start: 75 @37596 has 94 MA's), (96, 37740), (108, 37788), (110, 37794), (126, 37878), (130, 37905), (141, 37968), (143, 37977), (160, 38055), (171, 38082), (186, 38151),

Gene: Peeb\_50 Start: 36905, Stop: 37495, Start Num: 75

Candidate Starts for Peeb\_50:

(11, 36233), (12, 36236), (22, 36527), (27, 36656), (36, 36728), (50, 36851), (69, 36872), (70, 36878), (Start: 75 @36905 has 94 MA's), (83, 36953), (96, 37049), (104, 37076), (108, 37097), (110, 37103), (115, 37127), (130, 37214), (136, 37244), (141, 37277), (143, 37286), (153, 37325), (160, 37364), (171, 37391), (186, 37460),

Gene: Periodt\_51 Start: 37067, Stop: 37657, Start Num: 75

Candidate Starts for Periodt\_51:

(Start: 75 @37067 has 94 MA's), (83, 37115), (96, 37211), (108, 37259), (110, 37265), (115, 37289), (130, 37376), (136, 37406), (141, 37439), (143, 37448), (153, 37487), (160, 37526), (171, 37553), (186, 37622),

Gene: Petra\_80 Start: 48158, Stop: 48742, Start Num: 75

Candidate Starts for Petra\_80:

(Start: 75 @48158 has 94 MA's), (85, 48224), (89, 48239), (97, 48311), (110, 48365), (111, 48368), (119, 48407), (120, 48428), (127, 48455), (137, 48515), (145, 48554), (149, 48566), (155, 48575), (171, 48635),

Gene: Phish\_50 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Phish\_50:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Phonegingi\_37 Start: 22596, Stop: 23168, Start Num: 74

Candidate Starts for Phonegingi\_37:

(49, 22434), (Start: 74 @22596 has 24 MA's), (80, 22626), (95, 22740), (99, 22767), (106, 22788), (113, 22830), (116, 22845), (118, 22857), (125, 22899), (139, 22986), (142, 22992), (151, 23004),

(166, 23058),

Gene: Phreak\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Phreak\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Pickles13\_36 Start: 22875, Stop: 23438, Start Num: 74

Candidate Starts for Pickles13\_36:

(49, 22707), (Start: 74 @22875 has 24 MA's), (77, 22887), (80, 22905), (91, 22968), (102, 23046), (103, 23049), (107, 23061), (116, 23115), (118, 23127), (122, 23160), (124, 23166), (139, 23256), (142, 23262), (151, 23274), (183, 23388),

Gene: PinkYoshi\_51 Start: 36905, Stop: 37495, Start Num: 75

Candidate Starts for PinkYoshi\_51:

(11, 36233), (12, 36236), (22, 36527), (27, 36656), (36, 36728), (50, 36851), (69, 36872), (70, 36878), (Start: 75 @36905 has 94 MA's), (83, 36953), (96, 37049), (104, 37076), (108, 37097), (110, 37103), (115, 37127), (130, 37214), (136, 37244), (141, 37277), (143, 37286), (153, 37325), (160, 37364), (171, 37391), (186, 37460),

Gene: Pinnie\_50 Start: 38254, Stop: 38841, Start Num: 75

Candidate Starts for Pinnie\_50:

(40, 38170), (45, 38215), (Start: 75 @38254 has 94 MA's), (83, 38302), (98, 38407), (109, 38449), (110, 38452), (141, 38626), (142, 38629), (143, 38635), (160, 38710), (171, 38737), (175, 38752),

Gene: Plagueis\_51 Start: 36734, Stop: 37324, Start Num: 75

Candidate Starts for Plagueis\_51:

(11, 36062), (12, 36065), (22, 36356), (27, 36485), (36, 36557), (50, 36680), (69, 36701), (70, 36707), (Start: 75 @36734 has 94 MA's), (83, 36782), (96, 36878), (104, 36905), (108, 36926), (110, 36932), (115, 36956), (130, 37043), (136, 37073), (141, 37106), (143, 37115), (153, 37154), (160, 37193), (171, 37220), (186, 37289),

Gene: Portcullis\_65 Start: 47219, Stop: 47821, Start Num: 74

Candidate Starts for Portcullis\_65:

(Start: 74 @47219 has 24 MA's), (117, 47459), (131, 47537), (133, 47552), (142, 47597), (146, 47618), (163, 47687), (165, 47690), (168, 47696), (176, 47726), (179, 47738), (187, 47774), (191, 47804),

Gene: PrincePatrick\_76 Start: 45859, Stop: 46449, Start Num: 75

Candidate Starts for PrincePatrick\_76:

(Start: 75 @45859 has 94 MA's), (103, 46036), (110, 46069), (112, 46081), (115, 46093), (116, 46099), (123, 46144), (171, 46351), (180, 46390),

Gene: Rabbs\_53 Start: 37053, Stop: 37640, Start Num: 75

Candidate Starts for Rabbs\_53:

(14, 36564), (16, 36606), (18, 36642), (36, 36975), (Start: 75 @37053 has 94 MA's), (96, 37197), (108, 37245), (110, 37251), (115, 37275), (130, 37362), (141, 37425), (143, 37434), (160, 37509), (171, 37536),

Gene: RainyPolka\_58 Start: 48033, Stop: 48623, Start Num: 79

Candidate Starts for RainyPolka\_58:

(Start: 79 @48033 has 10 MA's), (88, 48084), (92, 48108), (94, 48135), (96, 48159), (103, 48180), (107, 48192), (110, 48222), (116, 48252), (121, 48291), (126, 48306), (127, 48315), (131, 48336), (141, 48396), (152, 48441), (154, 48447), (171, 48495), (177, 48525), (185, 48561),

Gene: Rem711\_70 Start: 43454, Stop: 44074, Start Num: 74

Candidate Starts for Rem711\_70:

(Start: 74 @43454 has 24 MA's), (76, 43463), (77, 43466), (83, 43505), (90, 43544), (97, 43610), (102, 43628), (105, 43637), (112, 43679), (144, 43853), (162, 43922), (167, 43931), (183, 43985),

Gene: Remy19\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Remy19\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Renaissance\_51 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Renaissance\_51:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: RogerDodger\_66 Start: 47394, Stop: 47993, Start Num: 74

Candidate Starts for RogerDodger\_66:

(1, 46452), (2, 46458), (3, 46464), (4, 46470), (5, 46476), (7, 46500), (13, 46623), (42, 47166), (Start: 74 @47394 has 24 MA's), (116, 47628), (133, 47724), (142, 47769), (157, 47826), (163, 47859), (168, 47868), (176, 47898), (179, 47910), (187, 47946), (191, 47976),

Gene: Salete\_60 Start: 48760, Stop: 49350, Start Num: 79

Candidate Starts for Salete\_60:

(56, 48637), (Start: 79 @48760 has 10 MA's), (85, 48799), (88, 48811), (92, 48835), (94, 48862), (96, 48886), (107, 48919), (109, 48946), (110, 48949), (116, 48979), (121, 49018), (126, 49033), (130, 49060), (131, 49063), (148, 49153), (152, 49168), (154, 49174), (171, 49222), (177, 49252), (185, 49288),

Gene: Samba\_75 Start: 48756, Stop: 49346, Start Num: 75

Candidate Starts for Samba\_75:

(25, 48378), (37, 48474), (Start: 75 @48756 has 94 MA's), (112, 48978), (115, 48990), (116, 48996), (123, 49041), (127, 49059), (130, 49077), (131, 49080), (137, 49119), (138, 49122), (171, 49248),

Gene: Savbucketdawg\_62 Start: 46938, Stop: 47537, Start Num: 74

Candidate Starts for Savbucketdawg\_62:

(1, 45984), (2, 45990), (3, 45996), (4, 46002), (5, 46008), (7, 46032), (42, 46710), (Start: 74 @46938 has 24 MA's), (116, 47172), (133, 47268), (142, 47313), (157, 47370), (163, 47403), (168, 47412), (176, 47442), (179, 47454), (191, 47520),

Gene: Schiebel\_51 Start: 36899, Stop: 37489, Start Num: 75

Candidate Starts for Schiebel\_51:

(11, 36227), (12, 36230), (22, 36521), (27, 36650), (36, 36722), (50, 36845), (69, 36866), (70, 36872), (Start: 75 @36899 has 94 MA's), (83, 36947), (96, 37043), (104, 37070), (108, 37091), (110, 37097), (115, 37121), (130, 37208), (136, 37238), (141, 37271), (143, 37280), (153, 37319), (160, 37358), (171, 37385), (186, 37454),

Gene: ShaboiShabazz\_50 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for ShaboiShabazz\_50:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),

Gene: Sizemore\_51 Start: 36900, Stop: 37490, Start Num: 75

Candidate Starts for Sizemore\_51:

(11, 36228), (12, 36231), (22, 36522), (27, 36651), (36, 36723), (50, 36846), (69, 36867), (70, 36873), (Start: 75 @36900 has 94 MA's), (83, 36948), (96, 37044), (104, 37071), (108, 37092), (110, 37098), (115, 37122), (130, 37209), (136, 37239), (141, 37272), (143, 37281), (153, 37320), (160, 37359), (171, 37386), (186, 37455),

Gene: SmokingBunny\_63 Start: 47232, Stop: 47831, Start Num: 74

Candidate Starts for SmokingBunny\_63:

(1, 46362), (2, 46368), (3, 46374), (4, 46380), (5, 46386), (42, 47004), (Start: 74 @47232 has 24 MA's), (116, 47466), (133, 47562), (142, 47607), (157, 47664), (163, 47697), (168, 47706), (176, 47736), (179, 47748), (187, 47784), (191, 47814),

Gene: Sneeze\_52 Start: 37052, Stop: 37639, Start Num: 75

Candidate Starts for Sneeze\_52:

(14, 36563), (16, 36605), (18, 36641), (36, 36974), (Start: 75 @37052 has 94 MA's), (96, 37196), (108, 37244), (110, 37250), (115, 37274), (130, 37361), (141, 37424), (143, 37433), (160, 37508), (171, 37535),

Gene: Stargaze\_52 Start: 38406, Stop: 39032, Start Num: 67

Candidate Starts for Stargaze\_52:

(32, 38190), (67, 38406), (Start: 75 @38445 has 94 MA's), (83, 38493), (98, 38598), (109, 38640), (110, 38643), (129, 38751), (141, 38817), (142, 38820), (143, 38826), (160, 38901), (171, 38928),

Gene: Sweets\_50 Start: 36909, Stop: 37499, Start Num: 75

Candidate Starts for Sweets\_50:

(11, 36237), (12, 36240), (22, 36531), (27, 36660), (36, 36732), (50, 36855), (69, 36876), (70, 36882), (Start: 75 @36909 has 94 MA's), (83, 36957), (96, 37053), (104, 37080), (108, 37101), (110, 37107), (115, 37131), (130, 37218), (136, 37248), (141, 37281), (143, 37290), (153, 37329), (160, 37368), (171, 37395), (186, 37464),

Gene: TP1604\_60 Start: 48765, Stop: 49355, Start Num: 79

Candidate Starts for TP1604\_60:

(Start: 79 @48765 has 10 MA's), (88, 48816), (92, 48840), (94, 48867), (96, 48891), (107, 48924), (109, 48951), (110, 48954), (116, 48984), (121, 49023), (126, 49038), (130, 49065), (131, 49068), (148, 49158), (152, 49173), (154, 49179), (171, 49227), (177, 49257), (185, 49293),

Gene: Taheera\_49 Start: 36701, Stop: 37288, Start Num: 75

Candidate Starts for Taheera\_49:

(Start: 75 @36701 has 94 MA's), (96, 36845), (108, 36893), (110, 36899), (115, 36923), (130, 37010), (141, 37073), (143, 37082), (160, 37157), (171, 37184),

Gene: Terror\_49 Start: 36701, Stop: 37288, Start Num: 75

Candidate Starts for Terror\_49:

(Start: 75 @36701 has 94 MA's), (96, 36845), (108, 36893), (110, 36899), (115, 36923), (130, 37010), (141, 37073), (143, 37082), (160, 37157), (171, 37184),

Gene: Toast\_74 Start: 46525, Stop: 47115, Start Num: 75

Candidate Starts for Toast\_74:

(Start: 75 @46525 has 94 MA's), (103, 46702), (110, 46735), (112, 46747), (115, 46759), (116, 46765), (123, 46810), (138, 46891), (171, 47017), (180, 47056),

Gene: Togo\_62 Start: 47232, Stop: 47831, Start Num: 74

Candidate Starts for Togo\_62:

(1, 46362), (2, 46368), (3, 46374), (4, 46380), (5, 46386), (42, 47004), (Start: 74 @47232 has 24 MA's), (116, 47466), (133, 47562), (142, 47607), (157, 47664), (163, 47697), (168, 47706), (176, 47736), (179, 47748), (187, 47784), (191, 47814),

Gene: TomBrady\_51 Start: 36915, Stop: 37505, Start Num: 75

Candidate Starts for TomBrady\_51:

(11, 36243), (12, 36246), (22, 36537), (27, 36666), (36, 36738), (50, 36861), (69, 36882), (70, 36888), (Start: 75 @36915 has 94 MA's), (83, 36963), (96, 37059), (104, 37086), (108, 37107), (110, 37113), (115, 37137), (130, 37224), (136, 37254), (141, 37287), (143, 37296), (153, 37335), (160, 37374), (171, 37401), (186, 37470),

Gene: Twister6\_65 Start: 46992, Stop: 47591, Start Num: 74

Candidate Starts for Twister6\_65:

(6, 46068), (8, 46077), (10, 46158), (42, 46764), (Start: 74 @46992 has 24 MA's), (116, 47226), (133, 47322), (142, 47367), (157, 47424), (163, 47457), (168, 47466), (176, 47496), (179, 47508), (187, 47544), (191, 47574),

Gene: UmaThurman\_76 Start: 46447, Stop: 47037, Start Num: 75

Candidate Starts for UmaThurman\_76:

(Start: 75 @46447 has 94 MA's), (112, 46669), (115, 46681), (116, 46687), (123, 46732), (127, 46750), (130, 46768), (131, 46771), (137, 46810), (138, 46813), (171, 46939), (188, 47011),

Gene: Utz\_66 Start: 46364, Stop: 46954, Start Num: 75

Candidate Starts for Utz\_66:

(Start: 75 @46364 has 94 MA's), (112, 46586), (115, 46598), (116, 46604), (123, 46649), (127, 46667), (131, 46688), (138, 46730), (171, 46856), (188, 46928),

Gene: Valary\_64 Start: 47836, Stop: 48438, Start Num: 74

Candidate Starts for Valary\_64:

(Start: 74 @47836 has 24 MA's), (117, 48076), (131, 48154), (133, 48169), (142, 48214), (146, 48235), (163, 48304), (165, 48307), (168, 48313), (176, 48343), (179, 48355), (191, 48421),

Gene: VanDeWege\_65 Start: 47176, Stop: 47778, Start Num: 74

Candidate Starts for VanDeWege\_65:

(Start: 74 @47176 has 24 MA's), (117, 47416), (131, 47494), (133, 47509), (142, 47554), (146, 47575), (163, 47644), (165, 47647), (168, 47653), (176, 47683), (179, 47695), (191, 47761),

Gene: Warren\_37 Start: 22612, Stop: 23184, Start Num: 74

Candidate Starts for Warren\_37:

(Start: 74 @22612 has 24 MA's), (80, 22642), (95, 22756), (99, 22783), (106, 22804), (113, 22846), (116, 22861), (118, 22873), (125, 22915), (139, 23002), (142, 23008), (151, 23020), (166, 23074),

Gene: WeirDo19\_69 Start: 44467, Stop: 45291, Start Num: 46

Candidate Starts for Weirdo19\_69:

(26, 44290), (46, 44467), (63, 44593), (76, 44650), (90, 44746), (97, 44812), (103, 44833), (110, 44884), (117, 44917), (122, 44956), (130, 44995), (140, 45046), (161, 45130), (173, 45154), (181, 45193), (183, 45199), (194, 45280),

Gene: William\_77 Start: 47824, Stop: 48414, Start Num: 75

Candidate Starts for William\_77:

(19, 47206), (30, 47485), (38, 47560), (Start: 75 @47824 has 94 MA's), (112, 48046), (115, 48058), (116, 48064), (123, 48109), (130, 48145), (131, 48148), (138, 48190), (171, 48316),

Gene: Wisp\_73 Start: 46479, Stop: 47069, Start Num: 75

Candidate Starts for Wisp\_73:

(Start: 75 @46479 has 94 MA's), (112, 46701), (115, 46713), (116, 46719), (127, 46782), (130, 46800), (131, 46803), (137, 46842), (138, 46845), (171, 46971), (188, 47043),

Gene: Wizard\_61 Start: 47082, Stop: 47684, Start Num: 74

Candidate Starts for Wizard\_61:

(Start: 74 @47082 has 24 MA's), (117, 47322), (131, 47400), (133, 47415), (142, 47460), (146, 47481), (163, 47550), (165, 47553), (168, 47559), (176, 47589), (179, 47601), (191, 47667),

Gene: Xkcd426\_61 Start: 53906, Stop: 54505, Start Num: 79

Candidate Starts for Xkcd426\_61:

(48, 53699), (Start: 79 @53906 has 10 MA's), (81, 53921), (88, 53981), (96, 54056), (100, 54068), (130, 54233), (141, 54296), (153, 54344), (154, 54347), (160, 54368), (171, 54395), (175, 54410), (188, 54467),

Gene: YDN12\_59 Start: 47595, Stop: 48179, Start Num: 79

Candidate Starts for YDN12\_59:

(56, 47472), (Start: 79 @47595 has 10 MA's), (88, 47646), (92, 47670), (94, 47697), (96, 47721), (103, 47742), (109, 47781), (116, 47814), (121, 47853), (126, 47868), (131, 47898), (141, 47958), (142, 47961), (148, 47988), (153, 48006), (154, 48009), (160, 48030), (171, 48057), (185, 48123),

Gene: YungMoney\_63 Start: 49207, Stop: 49806, Start Num: 74

Candidate Starts for YungMoney\_63:

(Start: 74 @49207 has 24 MA's), (133, 49537), (142, 49582), (157, 49639), (163, 49672), (168, 49681), (176, 49711), (179, 49723), (187, 49759), (191, 49789),

Gene: Zarbodnamra\_79 Start: 46838, Stop: 47428, Start Num: 75

Candidate Starts for Zarbodnamra\_79:

(34, 46565), (37, 46586), (Start: 75 @46838 has 94 MA's), (112, 47060), (115, 47072), (116, 47078), (123, 47123), (127, 47141), (131, 47162), (138, 47204), (171, 47330), (188, 47402),

Gene: ZiggyZoo\_76 Start: 48324, Stop: 48914, Start Num: 75

Candidate Starts for ZiggyZoo\_76:

(Start: 75 @48324 has 94 MA's), (112, 48546), (115, 48558), (116, 48564), (123, 48609), (127, 48627), (130, 48645), (131, 48648), (137, 48687), (138, 48690), (171, 48816),

Gene: ZoMa\_49 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for ZoMa\_49:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887), (Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112), (115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373), (171, 37400), (186, 37469),



Gene: Zombie\_50 Start: 36914, Stop: 37504, Start Num: 75

Candidate Starts for Zombie\_50:

(11, 36242), (12, 36245), (22, 36536), (27, 36665), (36, 36737), (50, 36860), (69, 36881), (70, 36887),  
(Start: 75 @36914 has 94 MA's), (83, 36962), (96, 37058), (104, 37085), (108, 37106), (110, 37112),  
(115, 37136), (130, 37223), (136, 37253), (141, 37286), (143, 37295), (153, 37334), (160, 37373),  
(171, 37400), (186, 37469),