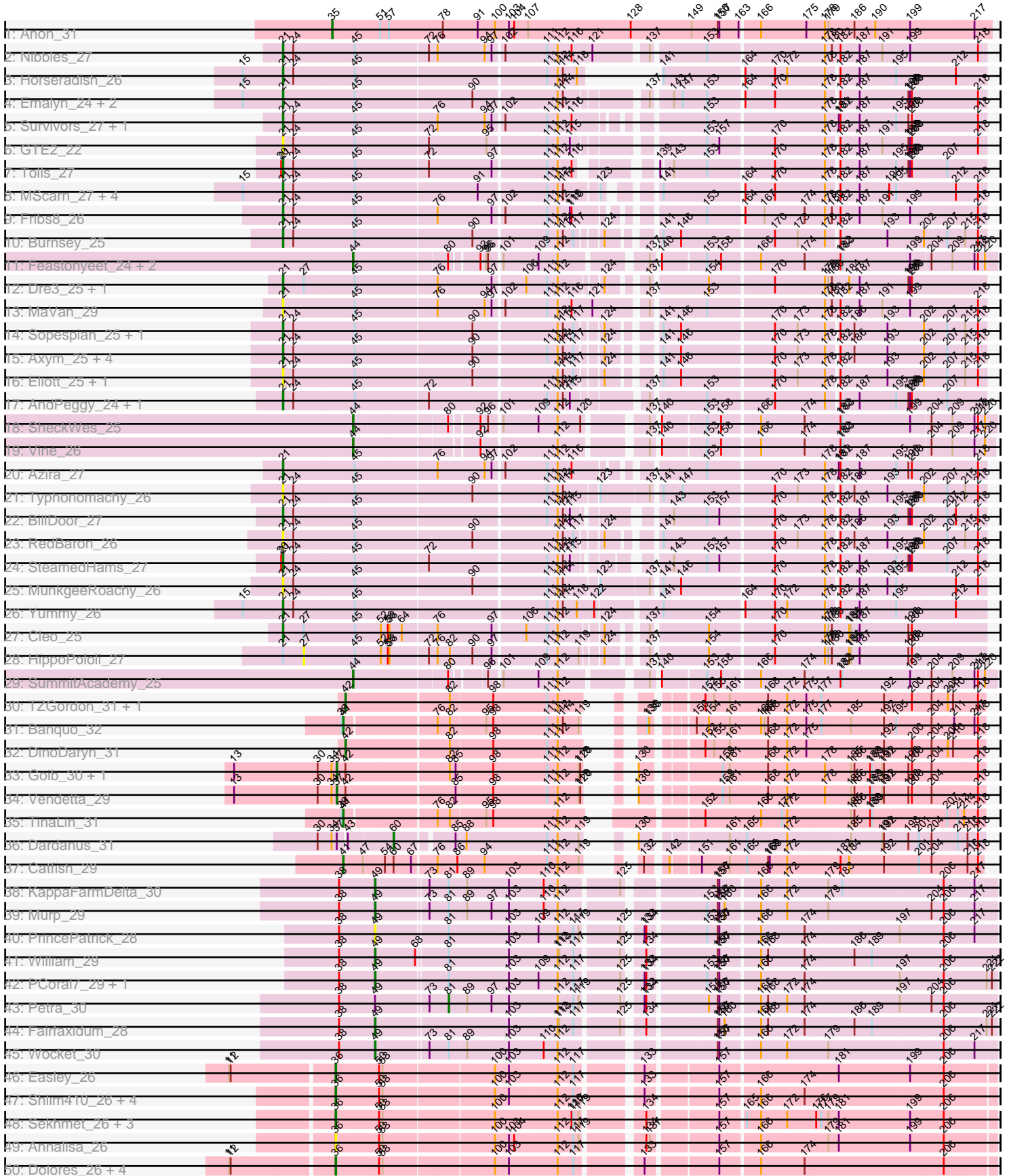
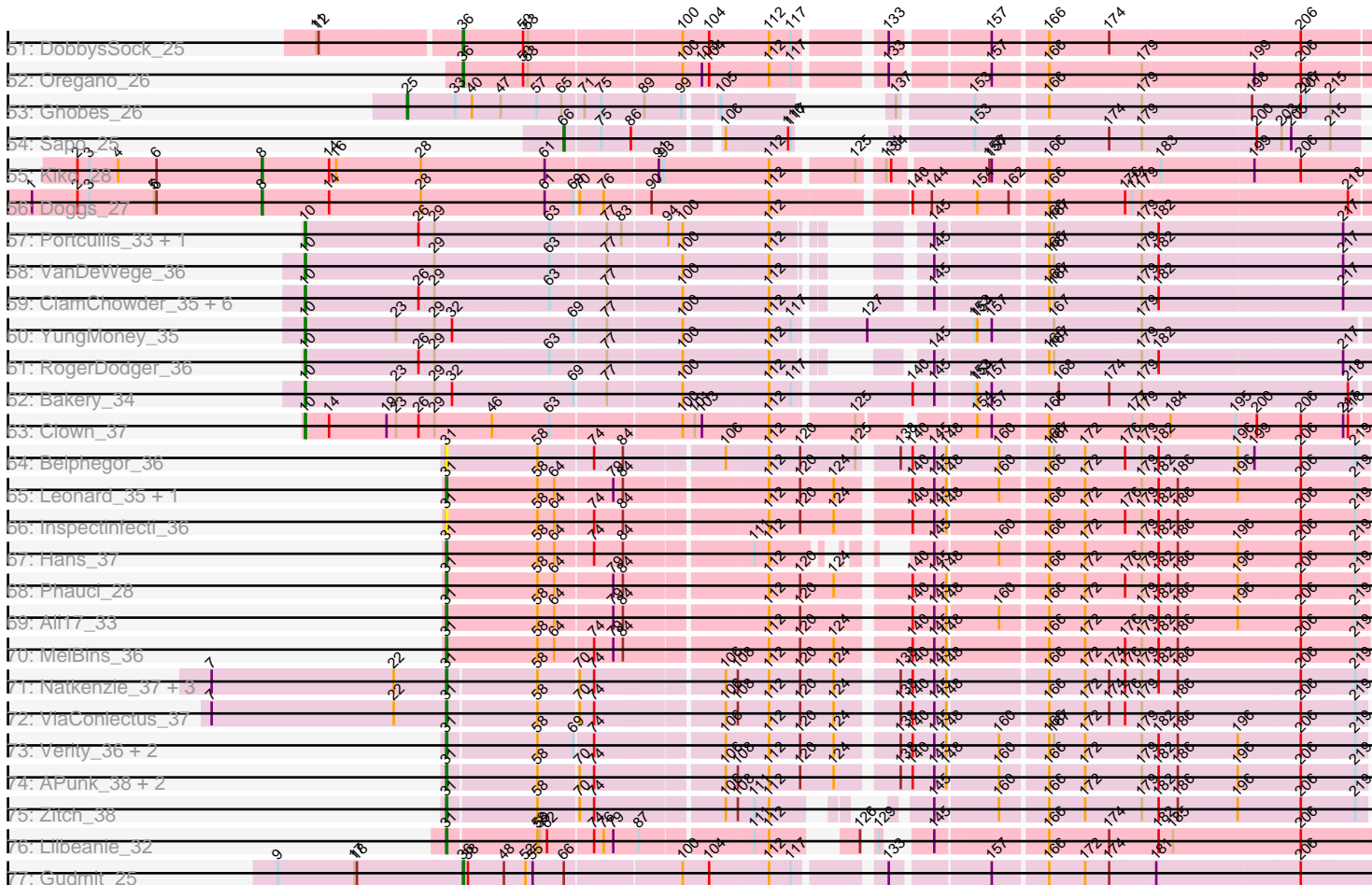


Pham 157706



Pham 157706



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 157706 Report

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

Pham number 157706 has 123 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Anon\_31
- Track 2 : Nibbles\_27
- Track 3 : Horseradish\_26
- Track 4 : Emalyn\_24, Amok\_24, AikoCarson\_24
- Track 5 : Survivors\_27, Zareef\_29
- Track 6 : GTE2\_22
- Track 7 : Tolls\_27
- Track 8 : MScarn\_27, Biskit\_26, Buttrmlkdreams\_25, SketchMex\_24, Troje\_25
- Track 9 : Fribs8\_26
- Track 10 : Burnsey\_25
- Track 11 : Feastonyeet\_24, PotPie\_26, BigChungus\_24
- Track 12 : Dre3\_25, Gibbous\_25
- Track 13 : MaVan\_29
- Track 14 : Sopespian\_25, Nina\_26
- Track 15 : Axym\_25, Agatha\_25, GoldHunter\_26, Cozz\_25, Quasar\_25
- Track 16 : Elliott\_25, PsychoKiller\_25
- Track 17 : AndPeggy\_24, Yarn\_24
- Track 18 : SheckWes\_25
- Track 19 : Vine\_26
- Track 20 : Azira\_27
- Track 21 : Typhonomachy\_26
- Track 22 : BillDoor\_27
- Track 23 : RedBaron\_26
- Track 24 : SteamedHams\_27
- Track 25 : MunkgeeRoachy\_26
- Track 26 : Yummy\_26
- Track 27 : Cleo\_25
- Track 28 : HippoPololi\_27
- Track 29 : SummitAcademy\_25
- Track 30 : TZGordon\_31, Huff\_31
- Track 31 : Banquo\_32
- Track 32 : DinoDaryn\_31
- Track 33 : Goib\_30, Splinter\_29
- Track 34 : Vendetta\_29
- Track 35 : TinaLin\_31
- Track 36 : Dardanus\_31
- Track 37 : Catfish\_29

- Track 38 : KappaFarmDelta\_30
- Track 39 : Murp\_29
- Track 40 : PrincePatrick\_28
- Track 41 : William\_29
- Track 42 : PCoral7\_29, Toast\_29
- Track 43 : Petra\_30
- Track 44 : Fairfaxidum\_28
- Track 45 : Wocket\_30
- Track 46 : Easley\_26
- Track 47 : Shlim410\_26, Adora\_26, Howe\_26, Twinkle\_26, Hortense\_26
- Track 48 : Sekhmet\_26, Dorito\_25, Samman98\_26, PhriskyACE\_25
- Track 49 : Annalisa\_26
- Track 50 : Dolores\_26, WinkNick\_26, MichaelScott\_26, Mcklovin\_26, Clark\_26
- Track 51 : DobbysSock\_25
- Track 52 : Oregano\_26
- Track 53 : Ghobes\_26
- Track 54 : Sapo\_25
- Track 55 : Kiko\_28
- Track 56 : Doggs\_27
- Track 57 : Portcullis\_33, Shinji\_33
- Track 58 : VanDeWege\_36
- Track 59 : ClamChowder\_35, Fugax\_35, PinkCoffee\_35, Barb\_35, Twister6\_35, Arri\_36, Danyall\_35
- Track 60 : YungMoney\_35
- Track 61 : RogerDodger\_36
- Track 62 : Bakery\_34
- Track 63 : Clown\_37
- Track 64 : Belphegor\_36
- Track 65 : Leonard\_35, Phinally\_35
- Track 66 : Inspectinfecti\_36
- Track 67 : Hans\_37
- Track 68 : Phauci\_28
- Track 69 : Ali17\_33
- Track 70 : MelBins\_36
- Track 71 : Natkenzie\_37, Abblin\_37, Sampson\_37, Scioto\_37
- Track 72 : ViaConlectus\_37
- Track 73 : Verity\_36, Delrey21\_36, DoctorFroggo\_36
- Track 74 : APunk\_38, Tardus\_38, Zipp\_36
- Track 75 : Zitch\_38
- Track 76 : Lilbeanie\_32
- Track 77 : Gudmit\_25

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

The start number called the most often in the published annotations is 21, it was called in 28 of the 102 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agatha\_25, AikoCarson\_24, Amok\_24, AndPeggy\_24, Axym\_25, Azira\_27, BillDoor\_27, Biskit\_26, Burnsey\_25, Buttrmlkdreams\_25, Cleo\_25, Cozz\_25,

Dre3\_25, Elliott\_25, Emalyn\_24, Fribs8\_26, GTE2\_22, Gibbous\_25, GoldHunter\_26, Horseradish\_26, MScarn\_27, MaVan\_29, MunkgeeRoachy\_26, Nibbles\_27, Nina\_26, PsychoKiller\_25, Quasar\_25, RedBaron\_26, SketchMex\_24, Sopespian\_25, SteamedHams\_27, Survivors\_27, Tolls\_27, Troje\_25, Typhonomachy\_26, Yarn\_24, Yummy\_26, Zareef\_29,

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

- HippoPololi\_27,

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

- APunk\_38, Abblin\_37, Adora\_26, Ali17\_33, Annalisa\_26, Anon\_31, Arri\_36, Bakery\_34, Banquo\_32, Barb\_35, Belphegor\_36, BigChungus\_24, Catfish\_29, ClamChowder\_35, Clark\_26, Clown\_37, Danyall\_35, Dardanus\_31, Delrey21\_36, DinoDaryn\_31, DobbysSock\_25, DoctorFroggo\_36, Doggs\_27, Dolores\_26, Dorito\_25, Easley\_26, Fairfaxidum\_28, Feastonyeet\_24, Fugax\_35, Ghobes\_26, Goib\_30, Gudmit\_25, Hans\_37, Hortense\_26, Howe\_26, Huffy\_31, Inspectinfecti\_36, KappaFarmDelta\_30, Kiko\_28, Leonard\_35, Lilbeanie\_32, Mcklovin\_26, MelBins\_36, MichaelScott\_26, Murp\_29, Natkenzie\_37, Oregano\_26, PCoral7\_29, Petra\_30, Phauci\_28, Phinally\_35, PhriskyACE\_25, PinkCoffee\_35, Portcullis\_33, PotPie\_26, PrincePatrick\_28, RogerDodger\_36, Samman98\_26, Sampson\_37, Sapo\_25, Scioto\_37, Sekhmet\_26, SheckWes\_25, Shinji\_33, Shlim410\_26, Splinter\_29, SummitAcademy\_25, TZGordon\_31, Tardus\_38, TinaLin\_31, Toast\_29, Twinkle\_26, Twister6\_35, VanDeWege\_36, Vendetta\_29, Verity\_36, ViaConlectus\_37, Vine\_26, William\_29, WinkNick\_26, Wocket\_30, YungMoney\_35, Zipp\_36, Zitch\_38,

### Summary by start number:

Start 8:

- Found in 2 of 123 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 2 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Doggs\_27 (DB), Kiko\_28 (DB),

Start 10:

- Found in 14 of 123 ( 11.4% ) of genes in pham
- Manual Annotations of this start: 13 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arri\_36 (DC1), Bakery\_34 (DC1), Barb\_35 (DC1), ClamChowder\_35 (DC1), Clown\_37 (DC2), Danyall\_35 (DC1), Fugax\_35 (DC1), PinkCoffee\_35 (DC1), Portcullis\_33 (DC1), RogerDodger\_36 (DC1), Shinji\_33 (DC1), Twister6\_35 (DC1), VanDeWege\_36 (DC1), YungMoney\_35 (DC1),

Start 21:

- Found in 39 of 123 ( 31.7% ) of genes in pham
- Manual Annotations of this start: 28 of 102
- Called 97.4% of time when present
- Phage (with cluster) where this start called: Agatha\_25 (CT), AikoCarson\_24 (CT), Amok\_24 (CT), AndPeggy\_24 (CT), Axym\_25 (CT), Azira\_27 (CT), BillDoor\_27 (CT), Biskit\_26 (CT), Burnsey\_25 (CT), Buttrmlkdreams\_25 (CT), Cleo\_25 (CT), Cozz\_25 (CT), Dre3\_25 (CT), Elliott\_25 (CT), Emalyn\_24 (CT), Fribs8\_26 (CT), GTE2\_22 (CT), Gibbous\_25 (CT), GoldHunter\_26 (CT), Horseradish\_26 (CT), MScarn\_27 (CT), MaVan\_29 (CT), MunkgeeRoachy\_26 (CT), Nibbles\_27 (CT), Nina\_26 (CT),

PsychoKiller\_25 (CT), Quasar\_25 (CT), RedBaron\_26 (CT), SketchMex\_24 (CT), Sopespian\_25 (CT), SteamedHams\_27 (CT), Survivors\_27 (CT), Tolls\_27 (CT), Troje\_25 (CT), Typhonmarchy\_26 (CT), Yarn\_24 (CT), Yummy\_26 (CT), Zareef\_29 (CT),

Start 25:

- Found in 1 of 123 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ghobes\_26 (DA),

Start 27:

- Found in 4 of 123 ( 3.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: HippoPololi\_27 (CT),

Start 31:

- Found in 21 of 123 ( 17.1% ) of genes in pham
- Manual Annotations of this start: 16 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk\_38 (DE4), Abblin\_37 (DE4), Ali17\_33 (DE2), Belphegor\_36 (DE), Delrey21\_36 (DE4), DoctorFroggo\_36 (DE4), Hans\_37 (DE2), Inspectinfecti\_36 (DE2), Leonard\_35 (DE2), Lilbeanie\_32 (DE5), MelBins\_36 (DE2), Natkenzie\_37 (DE4), Phauci\_28 (DE2), Phinally\_35 (DE2), Sampson\_37 (DE4), Scioto\_37 (DE4), Tardus\_38 (DE4), Verity\_36 (DE4), ViaConlectus\_37 (DE4), Zipp\_36 (DE4), Zitch\_38 (DE4),

Start 35:

- Found in 1 of 123 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anon\_31 (A15),

Start 36:

- Found in 19 of 123 ( 15.4% ) of genes in pham
- Manual Annotations of this start: 17 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adora\_26 (CZ4), Annalisa\_26 (CZ4), Clark\_26 (CZ4), DobbysSock\_25 (CZ4), Dolores\_26 (CZ4), Dorito\_25 (CZ4), Easley\_26 (CZ4), Gudmit\_25 (singleton), Hortense\_26 (CZ4), Howe\_26 (CZ4), Mcklovin\_26 (CZ4), MichaelScott\_26 (CZ4), Oregano\_26 (CZ4), PhriskyACE\_25 (CZ4), Samman98\_26 (CZ4), Sekhmet\_26 (CZ4), Shlim410\_26 (CZ4), Twinkle\_26 (CZ4), WinkNick\_26 (CZ4),

Start 37:

- Found in 4 of 123 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 3 of 102
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Goib\_30 (CU1), Splinter\_29 (CU1), Vendetta\_29 (CU1),

Start 41:

- Found in 3 of 123 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 3 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo\_32 (CU1), Catfish\_29 (CU5), TinaLin\_31 (CU1),

#### Start 42:

- Found in 6 of 123 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 3 of 102
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DinoDaryn\_31 (CU1), Huffy\_31 (CU1), TZGordon\_31 (CU1),

#### Start 44:

- Found in 6 of 123 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 5 of 102
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigChungus\_24 (CT), Feastonyeet\_24 (CT), PotPie\_26 (CT), SheckWes\_25 (CT), SummitAcademy\_25 (CT), Vine\_26 (CT),

#### Start 49:

- Found in 9 of 123 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 7 of 102
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Fairfaxidum\_28 (CV), KappaFarmDelta\_30 (CV), Murp\_29 (CV), PCoral7\_29 (CV), PrincePatrick\_28 (CV), Toast\_29 (CV), William\_29 (CV), Wocket\_30 (CV),

#### Start 60:

- Found in 2 of 123 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 102
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dardanus\_31 (CU3),

#### Start 66:

- Found in 2 of 123 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 102
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Sapo\_25 (DA),

#### Start 81:

- Found in 8 of 123 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 1 of 102
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Petra\_30 (CV),

### **Summary by clusters:**

There are 16 clusters represented in this pham: A15, singleton, CU3, CU1, DB, DE2, DE, DE4, DE5, CZ4, DA, CU5, CT, DC2, CV, DC1,

Info for manual annotations of cluster A15:

- Start number 35 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster CT:

- Start number 21 was manually annotated 28 times for cluster CT.
- Start number 44 was manually annotated 5 times for cluster CT.

Info for manual annotations of cluster CU1:

- Start number 37 was manually annotated 3 times for cluster CU1.
- Start number 41 was manually annotated 2 times for cluster CU1.
- Start number 42 was manually annotated 3 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 60 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU5:

- Start number 41 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CV:

- Start number 49 was manually annotated 7 times for cluster CV.
- Start number 81 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ4:

- Start number 36 was manually annotated 16 times for cluster CZ4.

Info for manual annotations of cluster DA:

- Start number 25 was manually annotated 1 time for cluster DA.
- Start number 66 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DB:

- Start number 8 was manually annotated 2 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 10 was manually annotated 12 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 10 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE2:

- Start number 31 was manually annotated 6 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 31 was manually annotated 9 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 31 was manually annotated 1 time for cluster DE5.

**Gene Information:**

Gene: APunk\_38 Start: 32541, Stop: 33617, Start Num: 31

Candidate Starts for APunk\_38:



(Start: 31 @32541 has 16 MA's), (58, 32649), (70, 32697), (74, 32715), (106, 32862), (108, 32874), (112, 32913), (120, 32952), (124, 32994), (138, 33060), (140, 33075), (145, 33102), (148, 33117), (160, 33174), (166, 33228), (172, 33273), (179, 33342), (182, 33363), (186, 33387), (196, 33462), (206, 33540), (219, 33606),

Gene: Abblin\_37 Start: 33084, Stop: 34160, Start Num: 31

Candidate Starts for Abblin\_37:

(7, 32790), (22, 33018), (Start: 31 @33084 has 16 MA's), (58, 33192), (70, 33240), (74, 33258), (106, 33405), (108, 33417), (112, 33456), (120, 33495), (124, 33537), (138, 33603), (140, 33618), (145, 33645), (148, 33660), (166, 33771), (172, 33816), (174, 33846), (176, 33864), (179, 33885), (182, 33906), (186, 33930), (206, 34083), (219, 34149),

Gene: Adora\_26 Start: 22572, Stop: 23609, Start Num: 36

Candidate Starts for Adora\_26:

(Start: 36 @22572 has 17 MA's), (50, 22641), (53, 22647), (100, 22827), (103, 22848), (112, 22929), (117, 22956), (133, 23049), (157, 23157), (166, 23220), (174, 23295), (206, 23526),

Gene: Agatha\_25 Start: 20517, Stop: 21614, Start Num: 21

Candidate Starts for Agatha\_25:

(Start: 21 @20517 has 28 MA's), (24, 20535), (45, 20640), (90, 20838), (111, 20952), (112, 20970), (114, 20979), (117, 20997), (124, 21033), (141, 21093), (146, 21123), (170, 21273), (173, 21312), (178, 21357), (182, 21375), (186, 21399), (193, 21456), (202, 21516), (207, 21552), (215, 21582), (218, 21603),

Gene: AikoCarson\_24 Start: 19778, Stop: 20890, Start Num: 21

Candidate Starts for AikoCarson\_24:

(15, 19709), (Start: 21 @19778 has 28 MA's), (45, 19901), (90, 20099), (112, 20231), (114, 20240), (137, 20357), (143, 20387), (147, 20402), (153, 20441), (164, 20498), (170, 20549), (178, 20633), (182, 20651), (187, 20684), (198, 20765), (199, 20768), (200, 20771), (218, 20879),

Gene: Ali17\_33 Start: 30788, Stop: 31876, Start Num: 31

Candidate Starts for Ali17\_33:

(Start: 31 @30788 has 16 MA's), (58, 30902), (64, 30923), (79, 30992), (84, 31004), (112, 31169), (120, 31208), (140, 31331), (145, 31358), (148, 31373), (160, 31430), (166, 31484), (172, 31529), (179, 31598), (182, 31619), (186, 31643), (196, 31718), (206, 31796), (219, 31862),

Gene: Amok\_24 Start: 19775, Stop: 20848, Start Num: 21

Candidate Starts for Amok\_24:

(15, 19706), (Start: 21 @19775 has 28 MA's), (45, 19898), (90, 20096), (112, 20228), (114, 20237), (137, 20315), (143, 20345), (147, 20360), (153, 20399), (164, 20456), (170, 20507), (178, 20591), (182, 20609), (187, 20642), (198, 20723), (199, 20726), (200, 20729), (218, 20837),

Gene: AndPeggy\_24 Start: 20180, Stop: 21292, Start Num: 21

Candidate Starts for AndPeggy\_24:

(Start: 21 @20180 has 28 MA's), (24, 20198), (45, 20303), (72, 20426), (111, 20615), (112, 20633), (114, 20642), (115, 20654), (137, 20759), (153, 20843), (170, 20951), (178, 21035), (182, 21053), (187, 21086), (195, 21149), (198, 21167), (199, 21170), (200, 21173), (207, 21230),

Gene: Annalisa\_26 Start: 22034, Stop: 23074, Start Num: 36

Candidate Starts for Annalisa\_26:

(Start: 36 @22034 has 17 MA's), (50, 22103), (53, 22109), (100, 22289), (103, 22310), (104, 22319), (112, 22391), (117, 22418), (119, 22427), (134, 22514), (137, 22520), (157, 22619), (166, 22682), (179, 22796), (181, 22811), (199, 22934), (206, 22991),

Gene: Anon\_31 Start: 22310, Stop: 23416, Start Num: 35

Candidate Starts for Anon\_31:

(Start: 35 @22310 has 1 MA's), (51, 22391), (57, 22406), (78, 22499), (91, 22559), (100, 22589), (103, 22613), (104, 22622), (107, 22646), (128, 22814), (149, 22919), (156, 22964), (157, 22967), (163, 23000), (166, 23030), (175, 23108), (178, 23138), (179, 23144), (186, 23186), (190, 23222), (199, 23279), (217, 23387),

Gene: Arri\_36 Start: 28916, Stop: 30088, Start Num: 10

Candidate Starts for Arri\_36:

(Start: 10 @28916 has 13 MA's), (26, 29057), (29, 29075), (63, 29210), (77, 29276), (100, 29363), (112, 29465), (145, 29570), (166, 29696), (167, 29702), (179, 29810), (182, 29828), (217, 30053),

Gene: Axym\_25 Start: 20517, Stop: 21614, Start Num: 21

Candidate Starts for Axym\_25:

(Start: 21 @20517 has 28 MA's), (24, 20535), (45, 20640), (90, 20838), (111, 20952), (112, 20970), (114, 20979), (117, 20997), (124, 21033), (141, 21093), (146, 21123), (170, 21273), (173, 21312), (178, 21357), (182, 21375), (186, 21399), (193, 21456), (202, 21516), (207, 21552), (215, 21582), (218, 21603),

Gene: Azira\_27 Start: 21488, Stop: 22588, Start Num: 21

Candidate Starts for Azira\_27:

(Start: 21 @21488 has 28 MA's), (45, 21611), (76, 21749), (94, 21827), (97, 21839), (102, 21854), (111, 21923), (112, 21941), (116, 21965), (153, 22133), (178, 22325), (181, 22346), (182, 22349), (187, 22382), (195, 22445), (198, 22463), (200, 22469), (218, 22577),

Gene: Bakery\_34 Start: 28127, Stop: 29377, Start Num: 10

Candidate Starts for Bakery\_34:

(Start: 10 @28127 has 13 MA's), (23, 28241), (29, 28286), (32, 28307), (69, 28451), (77, 28487), (100, 28574), (112, 28676), (117, 28703), (140, 28838), (145, 28865), (153, 28907), (154, 28910), (157, 28928), (168, 29003), (174, 29066), (179, 29105), (218, 29354),

Gene: Banquo\_32 Start: 23108, Stop: 24055, Start Num: 41

Candidate Starts for Banquo\_32:

(39, 23105), (Start: 41 @23108 has 3 MA's), (76, 23255), (82, 23276), (95, 23333), (98, 23345), (111, 23438), (112, 23456), (114, 23465), (119, 23492), (135, 23525), (136, 23528), (150, 23576), (154, 23597), (161, 23633), (166, 23684), (167, 23690), (168, 23696), (172, 23729), (175, 23762), (177, 23786), (185, 23834), (192, 23891), (195, 23912), (204, 23969), (211, 24008), (217, 24041), (218, 24047),

Gene: Barb\_35 Start: 28934, Stop: 30106, Start Num: 10

Candidate Starts for Barb\_35:

(Start: 10 @28934 has 13 MA's), (26, 29075), (29, 29093), (63, 29228), (77, 29294), (100, 29381), (112, 29483), (145, 29588), (166, 29714), (167, 29720), (179, 29828), (182, 29846), (217, 30071),

Gene: Belphegor\_36 Start: 32996, Stop: 34081, Start Num: 31

Candidate Starts for Belphegor\_36:

(Start: 31 @32996 has 16 MA's), (58, 33110), (74, 33176), (84, 33212), (106, 33326), (112, 33377), (120, 33416), (125, 33485), (138, 33524), (140, 33539), (145, 33566), (148, 33581), (160, 33638), (166, 33692), (167, 33698), (172, 33737), (176, 33785), (179, 33806), (182, 33824), (196, 33923), (199, 33944), (206, 34001), (219, 34067),

Gene: BigChungus\_24 Start: 20320, Stop: 21312, Start Num: 44

Candidate Starts for BigChungus\_24:

(Start: 44 @20320 has 5 MA's), (80, 20467), (92, 20509), (95, 20515), (96, 20518), (101, 20536), (109, 20593), (112, 20626), (137, 20755), (140, 20764), (153, 20833), (158, 20857), (166, 20917), (174, 20992), (182, 21052), (183, 21055), (199, 21172), (204, 21205), (209, 21241), (217, 21277), (218, 21283), (220, 21295),

Gene: BillDoor\_27 Start: 20148, Stop: 21239, Start Num: 21

Candidate Starts for BillDoor\_27:

(Start: 21 @20148 has 28 MA's), (24, 20166), (45, 20271), (111, 20583), (112, 20601), (114, 20610), (115, 20622), (143, 20736), (153, 20790), (157, 20811), (170, 20898), (178, 20982), (182, 21000), (187, 21033), (195, 21096), (198, 21114), (199, 21117), (200, 21120), (207, 21177), (212, 21192), (218, 21228),

Gene: Biskit\_26 Start: 20168, Stop: 21265, Start Num: 21

Candidate Starts for Biskit\_26:

(15, 20099), (Start: 21 @20168 has 28 MA's), (24, 20186), (45, 20291), (91, 20498), (111, 20603), (112, 20621), (114, 20630), (123, 20684), (141, 20744), (164, 20873), (170, 20924), (178, 21008), (182, 21026), (187, 21059), (194, 21110), (195, 21122), (212, 21218), (218, 21254),

Gene: Burnsey\_25 Start: 20518, Stop: 21615, Start Num: 21

Candidate Starts for Burnsey\_25:

(Start: 21 @20518 has 28 MA's), (24, 20536), (45, 20641), (90, 20839), (111, 20953), (112, 20971), (114, 20980), (117, 20998), (124, 21034), (141, 21094), (146, 21124), (170, 21274), (173, 21313), (178, 21358), (182, 21376), (193, 21457), (202, 21517), (207, 21553), (215, 21583), (218, 21604),

Gene: Buttrmlkdreams\_25 Start: 20150, Stop: 21247, Start Num: 21

Candidate Starts for Buttrmlkdreams\_25:

(15, 20081), (Start: 21 @20150 has 28 MA's), (24, 20168), (45, 20273), (91, 20480), (111, 20585), (112, 20603), (114, 20612), (123, 20666), (141, 20726), (164, 20855), (170, 20906), (178, 20990), (182, 21008), (187, 21041), (194, 21092), (195, 21104), (212, 21200), (218, 21236),

Gene: Catfish\_29 Start: 24416, Stop: 25366, Start Num: 41

Candidate Starts for Catfish\_29:

(Start: 41 @24416 has 3 MA's), (47, 24446), (54, 24482), (Start: 60 @24497 has 1 MA's), (67, 24527), (76, 24566), (86, 24599), (94, 24641), (111, 24749), (112, 24767), (119, 24803), (132, 24830), (142, 24854), (151, 24896), (161, 24944), (165, 24971), (168, 25007), (169, 25010), (172, 25040), (182, 25127), (184, 25142), (192, 25202), (201, 25259), (204, 25280), (216, 25340), (218, 25358),

Gene: ClamChowder\_35 Start: 28934, Stop: 30106, Start Num: 10

Candidate Starts for ClamChowder\_35:

(Start: 10 @28934 has 13 MA's), (26, 29075), (29, 29093), (63, 29228), (77, 29294), (100, 29381), (112, 29483), (145, 29588), (166, 29714), (167, 29720), (179, 29828), (182, 29846), (217, 30071),

Gene: Clark\_26 Start: 22034, Stop: 23071, Start Num: 36

Candidate Starts for Clark\_26:

(11, 21863), (12, 21866), (Start: 36 @22034 has 17 MA's), (50, 22103), (53, 22109), (100, 22289), (103, 22310), (112, 22391), (117, 22418), (133, 22511), (157, 22619), (166, 22682), (174, 22757), (206, 22988),

Gene: Cleo\_25 Start: 20832, Stop: 21935, Start Num: 21

Candidate Starts for Cleo\_25:

(Start: 21 @20832 has 28 MA's), (27, 20868), (45, 20955), (52, 21000), (56, 21012), (58, 21015), (64, 21036), (76, 21093), (97, 21183), (106, 21234), (111, 21267), (112, 21285), (124, 21348), (137,

21396), (154, 21483), (170, 21588), (178, 21672), (179, 21678), (180, 21684), (184, 21711), (185, 21714), (187, 21729), (198, 21810), (200, 21816),

Gene: Clown\_37 Start: 30957, Stop: 32189, Start Num: 10

Candidate Starts for Clown\_37:

(Start: 10 @30957 has 13 MA's), (14, 30987), (19, 31059), (23, 31071), (26, 31098), (29, 31116), (46, 31185), (63, 31251), (100, 31404), (101, 31416), (103, 31425), (112, 31506), (125, 31602), (154, 31719), (157, 31737), (166, 31800), (177, 31902), (179, 31914), (184, 31947), (195, 32028), (200, 32052), (206, 32106), (217, 32157), (218, 32163),

Gene: Cozz\_25 Start: 20518, Stop: 21615, Start Num: 21

Candidate Starts for Cozz\_25:

(Start: 21 @20518 has 28 MA's), (24, 20536), (45, 20641), (90, 20839), (111, 20953), (112, 20971), (114, 20980), (117, 20998), (124, 21034), (141, 21094), (146, 21124), (170, 21274), (173, 21313), (178, 21358), (182, 21376), (186, 21400), (193, 21457), (202, 21517), (207, 21553), (215, 21583), (218, 21604),

Gene: Danyall\_35 Start: 28734, Stop: 29906, Start Num: 10

Candidate Starts for Danyall\_35:

(Start: 10 @28734 has 13 MA's), (26, 28875), (29, 28893), (63, 29028), (77, 29094), (100, 29181), (112, 29283), (145, 29388), (166, 29514), (167, 29520), (179, 29628), (182, 29646), (217, 29871),

Gene: Dardanus\_31 Start: 23524, Stop: 24384, Start Num: 60

Candidate Starts for Dardanus\_31:

(30, 23410), (34, 23434), (Start: 37 @23443 has 3 MA's), (43, 23455), (Start: 60 @23524 has 1 MA's), (85, 23611), (88, 23626), (111, 23764), (112, 23782), (119, 23818), (130, 23836), (161, 23959), (165, 23986), (172, 24055), (185, 24160), (191, 24214), (192, 24217), (198, 24256), (201, 24274), (204, 24295), (213, 24340), (216, 24355), (218, 24373),

Gene: Delrey21\_36 Start: 33271, Stop: 34347, Start Num: 31

Candidate Starts for Delrey21\_36:

(Start: 31 @33271 has 16 MA's), (58, 33379), (69, 33424), (74, 33445), (106, 33592), (112, 33643), (120, 33682), (124, 33724), (138, 33790), (140, 33805), (145, 33832), (148, 33847), (160, 33904), (166, 33958), (167, 33964), (172, 34003), (179, 34072), (182, 34093), (186, 34117), (196, 34192), (206, 34270), (219, 34336),

Gene: DinoDaryn\_31 Start: 22562, Stop: 23509, Start Num: 42

Candidate Starts for DinoDaryn\_31:

(Start: 42 @22562 has 3 MA's), (82, 22733), (98, 22802), (111, 22895), (112, 22913), (152, 23045), (155, 23060), (161, 23087), (168, 23150), (172, 23183), (175, 23216), (192, 23345), (200, 23390), (204, 23420), (208, 23447), (210, 23456), (218, 23498),

Gene: DobbysSock\_25 Start: 21508, Stop: 22545, Start Num: 36

Candidate Starts for DobbysSock\_25:

(11, 21337), (12, 21340), (Start: 36 @21508 has 17 MA's), (50, 21577), (53, 21583), (100, 21763), (104, 21793), (112, 21865), (117, 21892), (133, 21985), (157, 22093), (166, 22156), (174, 22231), (206, 22462),

Gene: DoctorFroggo\_36 Start: 33271, Stop: 34347, Start Num: 31

Candidate Starts for DoctorFroggo\_36:

(Start: 31 @33271 has 16 MA's), (58, 33379), (69, 33424), (74, 33445), (106, 33592), (112, 33643), (120, 33682), (124, 33724), (138, 33790), (140, 33805), (145, 33832), (148, 33847), (160, 33904), (166, 33958), (167, 33964), (172, 34003), (179, 34072), (182, 34093), (186, 34117), (196, 34192),

(206, 34270), (219, 34336),

Gene: Doggs\_27 Start: 22931, Stop: 24244, Start Num: 8

Candidate Starts for Doggs\_27:

(1, 22643), (2, 22700), (3, 22715), (5, 22796), (6, 22799), (Start: 8 @22931 has 2 MA's), (14, 23015), (28, 23129), (61, 23282), (69, 23318), (70, 23321), (76, 23351), (90, 23405), (112, 23549), (140, 23705), (144, 23729), (154, 23777), (162, 23816), (166, 23858), (176, 23951), (177, 23960), (179, 23972), (218, 24221),

Gene: Dolores\_26 Start: 22010, Stop: 23047, Start Num: 36

Candidate Starts for Dolores\_26:

(11, 21839), (12, 21842), (Start: 36 @22010 has 17 MA's), (50, 22079), (53, 22085), (100, 22265), (103, 22286), (112, 22367), (117, 22394), (133, 22487), (157, 22595), (166, 22658), (174, 22733), (206, 22964),

Gene: Dorito\_25 Start: 21473, Stop: 22513, Start Num: 36

Candidate Starts for Dorito\_25:

(Start: 36 @21473 has 17 MA's), (50, 21542), (53, 21548), (100, 21728), (112, 21830), (116, 21854), (117, 21857), (119, 21866), (134, 21953), (157, 22058), (165, 22097), (166, 22121), (172, 22166), (176, 22214), (177, 22223), (179, 22235), (181, 22250), (199, 22373), (206, 22430),

Gene: Dre3\_25 Start: 20758, Stop: 21861, Start Num: 21

Candidate Starts for Dre3\_25:

(Start: 21 @20758 has 28 MA's), (27, 20794), (45, 20881), (76, 21019), (97, 21109), (106, 21160), (111, 21193), (112, 21211), (124, 21274), (137, 21322), (154, 21409), (170, 21514), (178, 21598), (179, 21604), (180, 21610), (184, 21637), (187, 21655), (198, 21736), (199, 21739), (200, 21742),

Gene: Easley\_26 Start: 22020, Stop: 23057, Start Num: 36

Candidate Starts for Easley\_26:

(11, 21849), (12, 21852), (Start: 36 @22020 has 17 MA's), (50, 22089), (53, 22095), (100, 22275), (103, 22296), (112, 22377), (117, 22404), (133, 22497), (157, 22605), (181, 22797), (199, 22917), (206, 22974),

Gene: Elliott\_25 Start: 20517, Stop: 21614, Start Num: 21

Candidate Starts for Elliott\_25:

(Start: 21 @20517 has 28 MA's), (24, 20535), (45, 20640), (90, 20838), (112, 20970), (114, 20979), (117, 20997), (124, 21033), (141, 21093), (146, 21123), (170, 21273), (173, 21312), (178, 21357), (182, 21375), (193, 21456), (202, 21516), (207, 21552), (215, 21582), (218, 21603),

Gene: Emalyn\_24 Start: 19777, Stop: 20889, Start Num: 21

Candidate Starts for Emalyn\_24:

(15, 19708), (Start: 21 @19777 has 28 MA's), (45, 19900), (90, 20098), (112, 20230), (114, 20239), (137, 20356), (143, 20386), (147, 20401), (153, 20440), (164, 20497), (170, 20548), (178, 20632), (182, 20650), (187, 20683), (198, 20764), (199, 20767), (200, 20770), (218, 20878),

Gene: Fairfaxidum\_28 Start: 23698, Stop: 24678, Start Num: 49

Candidate Starts for Fairfaxidum\_28:

(38, 23638), (Start: 49 @23698 has 7 MA's), (103, 23905), (112, 23986), (113, 23989), (117, 24013), (125, 24082), (134, 24109), (156, 24217), (157, 24220), (160, 24229), (166, 24283), (168, 24295), (174, 24358), (186, 24439), (189, 24469), (206, 24589), (221, 24661), (222, 24670),

Gene: Feastonyeet\_24 Start: 20320, Stop: 21312, Start Num: 44

Candidate Starts for Feastonyeet\_24:

(Start: 44 @20320 has 5 MA's), (80, 20467), (92, 20509), (95, 20515), (96, 20518), (101, 20536), (109, 20593), (112, 20626), (137, 20755), (140, 20764), (153, 20833), (158, 20857), (166, 20917), (174, 20992), (182, 21052), (183, 21055), (199, 21172), (204, 21205), (209, 21241), (217, 21277), (218, 21283), (220, 21295),

Gene: Fribs8\_26 Start: 21343, Stop: 22440, Start Num: 21

Candidate Starts for Fribs8\_26:

(Start: 21 @21343 has 28 MA's), (24, 21361), (45, 21466), (76, 21604), (97, 21694), (102, 21709), (111, 21778), (112, 21796), (115, 21817), (116, 21820), (153, 21985), (164, 22042), (167, 22075), (174, 22144), (178, 22177), (180, 22189), (182, 22201), (187, 22234), (191, 22273), (199, 22318), (218, 22429),

Gene: Fugax\_35 Start: 28934, Stop: 30106, Start Num: 10

Candidate Starts for Fugax\_35:

(Start: 10 @28934 has 13 MA's), (26, 29075), (29, 29093), (63, 29228), (77, 29294), (100, 29381), (112, 29483), (145, 29588), (166, 29714), (167, 29720), (179, 29828), (182, 29846), (217, 30071),

Gene: GTE2\_22 Start: 19853, Stop: 20965, Start Num: 21

Candidate Starts for GTE2\_22:

(Start: 21 @19853 has 28 MA's), (24, 19871), (45, 19976), (72, 20099), (95, 20195), (111, 20288), (112, 20306), (115, 20327), (153, 20516), (157, 20537), (170, 20624), (178, 20708), (182, 20726), (187, 20759), (191, 20798), (198, 20840), (199, 20843), (200, 20846), (218, 20954),

Gene: Ghobes\_26 Start: 21406, Stop: 22404, Start Num: 25

Candidate Starts for Ghobes\_26:

(Start: 25 @21406 has 1 MA's), (33, 21466), (40, 21487), (47, 21523), (57, 21568), (65, 21595), (71, 21619), (75, 21640), (89, 21694), (99, 21736), (105, 21772), (137, 21868), (153, 21952), (166, 22036), (179, 22144), (198, 22276), (206, 22333), (207, 22339), (215, 22369),

Gene: Gibbous\_25 Start: 20758, Stop: 21861, Start Num: 21

Candidate Starts for Gibbous\_25:

(Start: 21 @20758 has 28 MA's), (27, 20794), (45, 20881), (76, 21019), (97, 21109), (106, 21160), (111, 21193), (112, 21211), (124, 21274), (137, 21322), (154, 21409), (170, 21514), (178, 21598), (179, 21604), (180, 21610), (184, 21637), (187, 21655), (198, 21736), (199, 21739), (200, 21742),

Gene: Goib\_30 Start: 22610, Stop: 23578, Start Num: 37

Candidate Starts for Goib\_30:

(13, 22433), (30, 22577), (34, 22601), (Start: 37 @22610 has 3 MA's), (Start: 42 @22625 has 3 MA's), (82, 22796), (85, 22805), (98, 22865), (111, 22958), (112, 22976), (119, 23012), (120, 23015), (130, 23030), (159, 23138), (161, 23150), (168, 23216), (172, 23249), (178, 23312), (185, 23354), (186, 23360), (188, 23387), (189, 23390), (191, 23408), (192, 23411), (198, 23450), (200, 23456), (204, 23489), (218, 23567),

Gene: GoldHunter\_26 Start: 20518, Stop: 21615, Start Num: 21

Candidate Starts for GoldHunter\_26:

(Start: 21 @20518 has 28 MA's), (24, 20536), (45, 20641), (90, 20839), (111, 20953), (112, 20971), (114, 20980), (117, 20998), (124, 21034), (141, 21094), (146, 21124), (170, 21274), (173, 21313), (178, 21358), (182, 21376), (186, 21400), (193, 21457), (202, 21517), (207, 21553), (215, 21583), (218, 21604),

Gene: Gudmit\_25 Start: 20321, Stop: 21364, Start Num: 36

Candidate Starts for Gudmit\_25:

(9, 20090), (17, 20186), (18, 20189), (Start: 36 @20321 has 17 MA's), (38, 20327), (48, 20372), (52, 20396), (55, 20405), (Start: 66 @20444 has 1 MA's), (100, 20579), (104, 20609), (112, 20681), (117, 20708), (133, 20801), (157, 20909), (166, 20972), (172, 21017), (174, 21047), (181, 21101), (206, 21278),

Gene: Hans\_37 Start: 31512, Stop: 32516, Start Num: 31

Candidate Starts for Hans\_37:

(Start: 31 @31512 has 16 MA's), (58, 31626), (64, 31647), (74, 31692), (84, 31728), (111, 31875), (112, 31893), (145, 31998), (160, 32070), (166, 32124), (172, 32169), (179, 32238), (182, 32259), (186, 32283), (196, 32358), (206, 32436), (219, 32502),

Gene: HippoPololi\_27 Start: 21443, Stop: 22510, Start Num: 27

Candidate Starts for HippoPololi\_27:

(Start: 21 @21407 has 28 MA's), (27, 21443), (45, 21530), (52, 21575), (56, 21587), (58, 21590), (72, 21653), (76, 21668), (82, 21689), (90, 21728), (97, 21758), (111, 21842), (112, 21860), (119, 21896), (124, 21923), (137, 21971), (154, 22058), (170, 22163), (178, 22247), (179, 22253), (180, 22259), (184, 22286), (185, 22289), (187, 22304), (198, 22385), (200, 22391),

Gene: Horseradish\_26 Start: 20064, Stop: 21086, Start Num: 21

Candidate Starts for Horseradish\_26:

(15, 19995), (Start: 21 @20064 has 28 MA's), (24, 20082), (45, 20187), (111, 20499), (112, 20517), (114, 20526), (118, 20550), (141, 20565), (164, 20694), (170, 20745), (172, 20766), (178, 20829), (182, 20847), (187, 20880), (195, 20943), (212, 21039),

Gene: Hortense\_26 Start: 22619, Stop: 23656, Start Num: 36

Candidate Starts for Hortense\_26:

(Start: 36 @22619 has 17 MA's), (50, 22688), (53, 22694), (100, 22874), (103, 22895), (112, 22976), (117, 23003), (133, 23096), (157, 23204), (166, 23267), (174, 23342), (206, 23573),

Gene: Howe\_26 Start: 22619, Stop: 23656, Start Num: 36

Candidate Starts for Howe\_26:

(Start: 36 @22619 has 17 MA's), (50, 22688), (53, 22694), (100, 22874), (103, 22895), (112, 22976), (117, 23003), (133, 23096), (157, 23204), (166, 23267), (174, 23342), (206, 23573),

Gene: Huff\_31 Start: 22562, Stop: 23509, Start Num: 42

Candidate Starts for Huff\_31:

(Start: 42 @22562 has 3 MA's), (82, 22733), (98, 22802), (111, 22895), (112, 22913), (152, 23045), (155, 23060), (161, 23087), (168, 23150), (172, 23183), (175, 23216), (177, 23240), (192, 23345), (200, 23390), (204, 23420), (208, 23447), (210, 23456), (218, 23498),

Gene: Inspectinfecti\_36 Start: 31874, Stop: 32962, Start Num: 31

Candidate Starts for Inspectinfecti\_36:

(Start: 31 @31874 has 16 MA's), (58, 31988), (64, 32009), (74, 32054), (84, 32090), (112, 32255), (120, 32294), (124, 32336), (140, 32417), (145, 32444), (148, 32459), (166, 32570), (172, 32615), (176, 32663), (179, 32684), (182, 32705), (186, 32729), (206, 32882), (219, 32948),

Gene: KappaFarmDelta\_30 Start: 23868, Stop: 24845, Start Num: 49

Candidate Starts for KappaFarmDelta\_30:

(38, 23808), (Start: 49 @23868 has 7 MA's), (73, 23949), (Start: 81 @23982 has 1 MA's), (89, 24009), (103, 24075), (110, 24132), (112, 24156), (125, 24252), (156, 24387), (157, 24390), (166, 24453), (172, 24498), (179, 24567), (183, 24588), (206, 24759), (217, 24810),

Gene: Kiko\_28 Start: 22114, Stop: 23412, Start Num: 8

Candidate Starts for Kiko\_28:

(2, 21883), (3, 21898), (4, 21934), (6, 21982), (Start: 8 @22114 has 2 MA's), (14, 22198), (16, 22207), (28, 22309), (61, 22462), (91, 22594), (93, 22600), (112, 22729), (125, 22825), (131, 22849), (134, 22852), (156, 22957), (157, 22960), (166, 23023), (183, 23158), (199, 23272), (206, 23329),

Gene: Leonard\_35 Start: 31510, Stop: 32598, Start Num: 31

Candidate Starts for Leonard\_35:

(Start: 31 @31510 has 16 MA's), (58, 31624), (64, 31645), (79, 31714), (84, 31726), (112, 31891), (120, 31930), (124, 31972), (140, 32053), (145, 32080), (148, 32095), (160, 32152), (166, 32206), (172, 32251), (179, 32320), (182, 32341), (186, 32365), (196, 32440), (206, 32518), (219, 32584),

Gene: Lilbeanie\_32 Start: 26757, Stop: 27755, Start Num: 31

Candidate Starts for Lilbeanie\_32:

(Start: 31 @26757 has 16 MA's), (58, 26865), (59, 26868), (62, 26877), (74, 26931), (76, 26943), (79, 26955), (87, 26985), (111, 27114), (112, 27132), (126, 27198), (129, 27204), (145, 27234), (166, 27360), (174, 27435), (182, 27495), (185, 27513), (206, 27669),

Gene: MScarn\_27 Start: 20153, Stop: 21250, Start Num: 21

Candidate Starts for MScarn\_27:

(15, 20084), (Start: 21 @20153 has 28 MA's), (24, 20171), (45, 20276), (91, 20483), (111, 20588), (112, 20606), (114, 20615), (123, 20669), (141, 20729), (164, 20858), (170, 20909), (178, 20993), (182, 21011), (187, 21044), (194, 21095), (195, 21107), (212, 21203), (218, 21239),

Gene: MaVan\_29 Start: 21488, Stop: 22621, Start Num: 21

Candidate Starts for MaVan\_29:

(Start: 21 @21488 has 28 MA's), (45, 21611), (76, 21749), (94, 21827), (97, 21839), (102, 21854), (111, 21923), (112, 21941), (116, 21965), (121, 22001), (137, 22082), (153, 22166), (178, 22358), (180, 22370), (182, 22382), (187, 22415), (191, 22454), (199, 22499), (218, 22610),

Gene: Mcklovin\_26 Start: 24788, Stop: 25825, Start Num: 36

Candidate Starts for Mcklovin\_26:

(11, 24617), (12, 24620), (Start: 36 @24788 has 17 MA's), (50, 24857), (53, 24863), (100, 25043), (103, 25064), (112, 25145), (117, 25172), (133, 25265), (157, 25373), (166, 25436), (174, 25511), (206, 25742),

Gene: MelBins\_36 Start: 31659, Stop: 32747, Start Num: 31

Candidate Starts for MelBins\_36:

(Start: 31 @31659 has 16 MA's), (58, 31773), (64, 31794), (74, 31839), (79, 31863), (84, 31875), (112, 32040), (120, 32079), (124, 32121), (140, 32202), (145, 32229), (148, 32244), (166, 32355), (172, 32400), (176, 32448), (179, 32469), (182, 32490), (186, 32514), (206, 32667), (219, 32733),

Gene: MichaelScott\_26 Start: 22391, Stop: 23428, Start Num: 36

Candidate Starts for MichaelScott\_26:

(11, 22220), (12, 22223), (Start: 36 @22391 has 17 MA's), (50, 22460), (53, 22466), (100, 22646), (103, 22667), (112, 22748), (117, 22775), (133, 22868), (157, 22976), (166, 23039), (174, 23114), (206, 23345),

Gene: MunkgeeRoachy\_26 Start: 20565, Stop: 21695, Start Num: 21

Candidate Starts for MunkgeeRoachy\_26:

(Start: 21 @20565 has 28 MA's), (24, 20583), (45, 20688), (90, 20886), (111, 21000), (112, 21018), (114, 21027), (123, 21081), (137, 21162), (141, 21174), (146, 21204), (170, 21354), (178, 21438), (182, 21456), (187, 21489), (193, 21537), (195, 21552), (212, 21648), (218, 21684),



Gene: Murp\_29 Start: 23645, Stop: 24622, Start Num: 49

Candidate Starts for Murp\_29:

(38, 23585), (Start: 49 @23645 has 7 MA's), (73, 23726), (Start: 81 @23759 has 1 MA's), (89, 23786), (97, 23825), (103, 23852), (110, 23909), (112, 23933), (153, 24146), (156, 24164), (157, 24167), (160, 24176), (166, 24230), (172, 24275), (179, 24344), (204, 24515), (206, 24536), (217, 24587),

Gene: Natkenzie\_37 Start: 33084, Stop: 34160, Start Num: 31

Candidate Starts for Natkenzie\_37:

(7, 32790), (22, 33018), (Start: 31 @33084 has 16 MA's), (58, 33192), (70, 33240), (74, 33258), (106, 33405), (108, 33417), (112, 33456), (120, 33495), (124, 33537), (138, 33603), (140, 33618), (145, 33645), (148, 33660), (166, 33771), (172, 33816), (174, 33846), (176, 33864), (179, 33885), (182, 33906), (186, 33930), (206, 34083), (219, 34149),

Gene: Nibbles\_27 Start: 21488, Stop: 22621, Start Num: 21

Candidate Starts for Nibbles\_27:

(Start: 21 @21488 has 28 MA's), (24, 21506), (45, 21611), (72, 21734), (76, 21749), (94, 21827), (97, 21839), (102, 21854), (111, 21923), (112, 21941), (116, 21965), (121, 22001), (137, 22082), (153, 22166), (178, 22358), (180, 22370), (182, 22382), (187, 22415), (191, 22454), (199, 22499), (218, 22610),

Gene: Nina\_26 Start: 21560, Stop: 22657, Start Num: 21

Candidate Starts for Nina\_26:

(Start: 21 @21560 has 28 MA's), (24, 21578), (45, 21683), (90, 21881), (112, 22013), (114, 22022), (117, 22040), (124, 22076), (141, 22136), (146, 22166), (170, 22316), (173, 22355), (178, 22400), (182, 22418), (186, 22442), (193, 22499), (202, 22559), (207, 22595), (215, 22625), (218, 22646),

Gene: Oregano\_26 Start: 22056, Stop: 23096, Start Num: 36

Candidate Starts for Oregano\_26:

(Start: 36 @22056 has 17 MA's), (50, 22125), (53, 22131), (100, 22311), (103, 22332), (104, 22341), (112, 22413), (117, 22440), (133, 22533), (157, 22641), (166, 22704), (179, 22818), (199, 22956), (206, 23013),

Gene: PCoral7\_29 Start: 23615, Stop: 24595, Start Num: 49

Candidate Starts for PCoral7\_29:

(38, 23555), (Start: 49 @23615 has 7 MA's), (Start: 81 @23726 has 1 MA's), (103, 23822), (109, 23870), (112, 23903), (117, 23930), (125, 23999), (133, 24023), (134, 24026), (153, 24116), (156, 24134), (157, 24137), (166, 24200), (174, 24275), (197, 24431), (206, 24506), (221, 24578), (222, 24587),

Gene: Petra\_30 Start: 23485, Stop: 24351, Start Num: 81

Candidate Starts for Petra\_30:

(38, 23311), (Start: 49 @23371 has 7 MA's), (73, 23452), (Start: 81 @23485 has 1 MA's), (89, 23512), (97, 23551), (103, 23578), (112, 23659), (117, 23686), (119, 23695), (125, 23755), (133, 23779), (134, 23782), (154, 23875), (156, 23890), (157, 23893), (166, 23956), (168, 23968), (172, 24001), (174, 24031), (197, 24187), (204, 24241), (206, 24262),

Gene: Phauci\_28 Start: 28099, Stop: 29187, Start Num: 31

Candidate Starts for Phauci\_28:

(Start: 31 @28099 has 16 MA's), (58, 28213), (64, 28234), (79, 28303), (84, 28315), (112, 28480), (120, 28519), (124, 28561), (140, 28642), (145, 28669), (148, 28684), (166, 28795), (172, 28840), (176, 28888), (179, 28909), (182, 28930), (186, 28954), (196, 29029), (206, 29107), (219, 29173),

Gene: Phinally\_35 Start: 31507, Stop: 32595, Start Num: 31

Candidate Starts for Phinally\_35:

(Start: 31 @31507 has 16 MA's), (58, 31621), (64, 31642), (79, 31711), (84, 31723), (112, 31888), (120, 31927), (124, 31969), (140, 32050), (145, 32077), (148, 32092), (160, 32149), (166, 32203), (172, 32248), (179, 32317), (182, 32338), (186, 32362), (196, 32437), (206, 32515), (219, 32581),

Gene: PhriskyACE\_25 Start: 21473, Stop: 22513, Start Num: 36

Candidate Starts for PhriskyACE\_25:

(Start: 36 @21473 has 17 MA's), (50, 21542), (53, 21548), (100, 21728), (112, 21830), (116, 21854), (117, 21857), (119, 21866), (134, 21953), (157, 22058), (165, 22097), (166, 22121), (172, 22166), (176, 22214), (177, 22223), (179, 22235), (181, 22250), (199, 22373), (206, 22430),

Gene: PinkCoffee\_35 Start: 28943, Stop: 30115, Start Num: 10

Candidate Starts for PinkCoffee\_35:

(Start: 10 @28943 has 13 MA's), (26, 29084), (29, 29102), (63, 29237), (77, 29303), (100, 29390), (112, 29492), (145, 29597), (166, 29723), (167, 29729), (179, 29837), (182, 29855), (217, 30080),

Gene: Portcullis\_33 Start: 28253, Stop: 29425, Start Num: 10

Candidate Starts for Portcullis\_33:

(Start: 10 @28253 has 13 MA's), (26, 28394), (29, 28412), (63, 28547), (77, 28613), (83, 28631), (94, 28682), (100, 28700), (112, 28802), (145, 28907), (166, 29033), (167, 29039), (179, 29147), (182, 29165), (217, 29390),

Gene: PotPie\_26 Start: 21139, Stop: 22131, Start Num: 44

Candidate Starts for PotPie\_26:

(Start: 44 @21139 has 5 MA's), (80, 21286), (92, 21328), (95, 21334), (96, 21337), (101, 21355), (109, 21412), (112, 21445), (137, 21574), (140, 21583), (153, 21652), (158, 21676), (166, 21736), (174, 21811), (182, 21871), (183, 21874), (199, 21991), (204, 22024), (209, 22060), (217, 22096), (218, 22102), (220, 22114),

Gene: PrincePatrick\_28 Start: 23694, Stop: 24674, Start Num: 49

Candidate Starts for PrincePatrick\_28:

(38, 23634), (Start: 49 @23694 has 7 MA's), (Start: 81 @23805 has 1 MA's), (103, 23901), (109, 23949), (112, 23982), (117, 24009), (119, 24018), (125, 24078), (133, 24102), (134, 24105), (153, 24195), (156, 24213), (157, 24216), (166, 24279), (174, 24354), (197, 24510), (206, 24585), (217, 24636),

Gene: PsychoKiller\_25 Start: 20517, Stop: 21614, Start Num: 21

Candidate Starts for PsychoKiller\_25:

(Start: 21 @20517 has 28 MA's), (24, 20535), (45, 20640), (90, 20838), (112, 20970), (114, 20979), (117, 20997), (124, 21033), (141, 21093), (146, 21123), (170, 21273), (173, 21312), (178, 21357), (182, 21375), (193, 21456), (202, 21516), (207, 21552), (215, 21582), (218, 21603),

Gene: Quasar\_25 Start: 21126, Stop: 22223, Start Num: 21

Candidate Starts for Quasar\_25:

(Start: 21 @21126 has 28 MA's), (24, 21144), (45, 21249), (90, 21447), (111, 21561), (112, 21579), (114, 21588), (117, 21606), (124, 21642), (141, 21702), (146, 21732), (170, 21882), (173, 21921), (178, 21966), (182, 21984), (186, 22008), (193, 22065), (202, 22125), (207, 22161), (215, 22191), (218, 22212),

Gene: RedBaron\_26 Start: 20561, Stop: 21658, Start Num: 21

Candidate Starts for RedBaron\_26:

(Start: 21 @20561 has 28 MA's), (24, 20579), (45, 20684), (90, 20882), (112, 21014), (114, 21023), (117, 21041), (124, 21077), (141, 21137), (170, 21317), (173, 21356), (178, 21401), (182, 21419),

(186, 21443), (193, 21500), (202, 21560), (207, 21596), (215, 21626), (218, 21647),

Gene: RogerDodger\_36 Start: 29082, Stop: 30254, Start Num: 10

Candidate Starts for RogerDodger\_36:

(Start: 10 @29082 has 13 MA's), (26, 29223), (29, 29241), (63, 29376), (77, 29442), (100, 29529), (112, 29631), (145, 29736), (166, 29862), (167, 29868), (179, 29976), (182, 29994), (217, 30219),

Gene: Samman98\_26 Start: 22025, Stop: 23065, Start Num: 36

Candidate Starts for Samman98\_26:

(Start: 36 @22025 has 17 MA's), (50, 22094), (53, 22100), (100, 22280), (112, 22382), (116, 22406), (117, 22409), (119, 22418), (134, 22505), (157, 22610), (165, 22649), (166, 22673), (172, 22718), (176, 22766), (177, 22775), (179, 22787), (181, 22802), (199, 22925), (206, 22982),

Gene: Sampson\_37 Start: 33029, Stop: 34105, Start Num: 31

Candidate Starts for Sampson\_37:

(7, 32735), (22, 32963), (Start: 31 @33029 has 16 MA's), (58, 33137), (70, 33185), (74, 33203), (106, 33350), (108, 33362), (112, 33401), (120, 33440), (124, 33482), (138, 33548), (140, 33563), (145, 33590), (148, 33605), (166, 33716), (172, 33761), (174, 33791), (176, 33809), (179, 33830), (182, 33851), (186, 33875), (206, 34028), (219, 34094),

Gene: Sapo\_25 Start: 21383, Stop: 22177, Start Num: 66

Candidate Starts for Sapo\_25:

(Start: 66 @21383 has 1 MA's), (75, 21425), (86, 21461), (106, 21551), (116, 21626), (117, 21629), (153, 21722), (174, 21878), (179, 21917), (200, 22055), (203, 22085), (205, 22094), (215, 22142),

Gene: Scioto\_37 Start: 33084, Stop: 34160, Start Num: 31

Candidate Starts for Scioto\_37:

(7, 32790), (22, 33018), (Start: 31 @33084 has 16 MA's), (58, 33192), (70, 33240), (74, 33258), (106, 33405), (108, 33417), (112, 33456), (120, 33495), (124, 33537), (138, 33603), (140, 33618), (145, 33645), (148, 33660), (166, 33771), (172, 33816), (174, 33846), (176, 33864), (179, 33885), (182, 33906), (186, 33930), (206, 34083), (219, 34149),

Gene: Sekhmet\_26 Start: 22385, Stop: 23425, Start Num: 36

Candidate Starts for Sekhmet\_26:

(Start: 36 @22385 has 17 MA's), (50, 22454), (53, 22460), (100, 22640), (112, 22742), (116, 22766), (117, 22769), (119, 22778), (134, 22865), (157, 22970), (165, 23009), (166, 23033), (172, 23078), (176, 23126), (177, 23135), (179, 23147), (181, 23162), (199, 23285), (206, 23342),

Gene: SheckWes\_25 Start: 20283, Stop: 21275, Start Num: 44

Candidate Starts for SheckWes\_25:

(Start: 44 @20283 has 5 MA's), (80, 20430), (92, 20472), (96, 20481), (101, 20499), (109, 20556), (112, 20589), (120, 20628), (137, 20718), (140, 20727), (153, 20796), (158, 20820), (166, 20880), (174, 20955), (182, 21015), (183, 21018), (199, 21135), (204, 21168), (209, 21204), (217, 21240), (218, 21246), (220, 21258),

Gene: Shinji\_33 Start: 28194, Stop: 29366, Start Num: 10

Candidate Starts for Shinji\_33:

(Start: 10 @28194 has 13 MA's), (26, 28335), (29, 28353), (63, 28488), (77, 28554), (83, 28572), (94, 28623), (100, 28641), (112, 28743), (145, 28848), (166, 28974), (167, 28980), (179, 29088), (182, 29106), (217, 29331),

Gene: Shlim410\_26 Start: 22619, Stop: 23656, Start Num: 36

Candidate Starts for Shlim410\_26:

(Start: 36 @22619 has 17 MA's), (50, 22688), (53, 22694), (100, 22874), (103, 22895), (112, 22976), (117, 23003), (133, 23096), (157, 23204), (166, 23267), (174, 23342), (206, 23573),

Gene: SketchMex\_24 Start: 20168, Stop: 21265, Start Num: 21

Candidate Starts for SketchMex\_24:

(15, 20099), (Start: 21 @20168 has 28 MA's), (24, 20186), (45, 20291), (91, 20498), (111, 20603), (112, 20621), (114, 20630), (123, 20684), (141, 20744), (164, 20873), (170, 20924), (178, 21008), (182, 21026), (187, 21059), (194, 21110), (195, 21122), (212, 21218), (218, 21254),

Gene: Sopespian\_25 Start: 20518, Stop: 21615, Start Num: 21

Candidate Starts for Sopespian\_25:

(Start: 21 @20518 has 28 MA's), (24, 20536), (45, 20641), (90, 20839), (112, 20971), (114, 20980), (117, 20998), (124, 21034), (141, 21094), (146, 21124), (170, 21274), (173, 21313), (178, 21358), (182, 21376), (186, 21400), (193, 21457), (202, 21517), (207, 21553), (215, 21583), (218, 21604),

Gene: Splinter\_29 Start: 22610, Stop: 23578, Start Num: 37

Candidate Starts for Splinter\_29:

(13, 22433), (30, 22577), (34, 22601), (Start: 37 @22610 has 3 MA's), (Start: 42 @22625 has 3 MA's), (82, 22796), (85, 22805), (98, 22865), (111, 22958), (112, 22976), (119, 23012), (120, 23015), (130, 23030), (159, 23138), (161, 23150), (168, 23216), (172, 23249), (178, 23312), (185, 23354), (186, 23360), (188, 23387), (189, 23390), (191, 23408), (192, 23411), (198, 23450), (200, 23456), (204, 23489), (218, 23567),

Gene: SteamedHams\_27 Start: 20181, Stop: 21269, Start Num: 21

Candidate Starts for SteamedHams\_27:

(20, 20178), (Start: 21 @20181 has 28 MA's), (24, 20199), (45, 20304), (72, 20427), (111, 20616), (112, 20634), (114, 20643), (115, 20655), (143, 20766), (153, 20820), (157, 20841), (170, 20928), (178, 21012), (182, 21030), (187, 21063), (195, 21126), (198, 21144), (199, 21147), (200, 21150), (207, 21207), (218, 21258),

Gene: SummitAcademy\_25 Start: 20359, Stop: 21351, Start Num: 44

Candidate Starts for SummitAcademy\_25:

(Start: 44 @20359 has 5 MA's), (80, 20506), (96, 20557), (101, 20575), (109, 20632), (112, 20665), (137, 20794), (140, 20803), (153, 20872), (158, 20896), (166, 20956), (174, 21031), (182, 21091), (183, 21094), (199, 21211), (204, 21244), (209, 21280), (217, 21316), (218, 21322), (220, 21334),

Gene: Survivors\_27 Start: 21337, Stop: 22437, Start Num: 21

Candidate Starts for Survivors\_27:

(Start: 21 @21337 has 28 MA's), (24, 21355), (45, 21460), (76, 21598), (94, 21676), (97, 21688), (102, 21703), (111, 21772), (112, 21790), (116, 21814), (153, 21982), (178, 22174), (181, 22195), (182, 22198), (187, 22231), (195, 22294), (198, 22312), (200, 22318), (218, 22426),

Gene: TZGordon\_31 Start: 22485, Stop: 23432, Start Num: 42

Candidate Starts for TZGordon\_31:

(Start: 42 @22485 has 3 MA's), (82, 22656), (98, 22725), (111, 22818), (112, 22836), (152, 22968), (155, 22983), (161, 23010), (168, 23073), (172, 23106), (175, 23139), (177, 23163), (192, 23268), (200, 23313), (204, 23343), (208, 23370), (210, 23379), (218, 23421),

Gene: Tardus\_38 Start: 32448, Stop: 33524, Start Num: 31

Candidate Starts for Tardus\_38:

(Start: 31 @32448 has 16 MA's), (58, 32556), (70, 32604), (74, 32622), (106, 32769), (108, 32781), (112, 32820), (120, 32859), (124, 32901), (138, 32967), (140, 32982), (145, 33009), (148, 33024), (160, 33081), (166, 33135), (172, 33180), (179, 33249), (182, 33270), (186, 33294), (196, 33369),

(206, 33447), (219, 33513),

Gene: TinaLin\_31 Start: 22732, Stop: 23730, Start Num: 41

Candidate Starts for TinaLin\_31:

(39, 22729), (Start: 41 @22732 has 3 MA's), (76, 22879), (82, 22900), (95, 22957), (98, 22969), (112, 23080), (152, 23263), (166, 23356), (171, 23392), (172, 23401), (185, 23506), (186, 23512), (188, 23539), (189, 23542), (207, 23668), (213, 23686), (214, 23695), (218, 23719),

Gene: Toast\_29 Start: 23615, Stop: 24595, Start Num: 49

Candidate Starts for Toast\_29:

(38, 23555), (Start: 49 @23615 has 7 MA's), (Start: 81 @23726 has 1 MA's), (103, 23822), (109, 23870), (112, 23903), (117, 23930), (125, 23999), (133, 24023), (134, 24026), (153, 24116), (156, 24134), (157, 24137), (166, 24200), (174, 24275), (197, 24431), (206, 24506), (221, 24578), (222, 24587),

Gene: Tolls\_27 Start: 20184, Stop: 21263, Start Num: 21

Candidate Starts for Tolls\_27:

(20, 20181), (Start: 21 @20184 has 28 MA's), (24, 20202), (45, 20307), (72, 20430), (97, 20535), (111, 20619), (112, 20637), (116, 20661), (139, 20742), (143, 20760), (153, 20814), (170, 20922), (178, 21006), (182, 21024), (187, 21057), (195, 21120), (198, 21138), (199, 21141), (200, 21144), (207, 21201),

Gene: Troje\_25 Start: 20150, Stop: 21247, Start Num: 21

Candidate Starts for Troje\_25:

(15, 20081), (Start: 21 @20150 has 28 MA's), (24, 20168), (45, 20273), (91, 20480), (111, 20585), (112, 20603), (114, 20612), (123, 20666), (141, 20726), (164, 20855), (170, 20906), (178, 20990), (182, 21008), (187, 21041), (194, 21092), (195, 21104), (212, 21200), (218, 21236),

Gene: Twinkle\_26 Start: 23678, Stop: 24715, Start Num: 36

Candidate Starts for Twinkle\_26:

(Start: 36 @23678 has 17 MA's), (50, 23747), (53, 23753), (100, 23933), (103, 23954), (112, 24035), (117, 24062), (133, 24155), (157, 24263), (166, 24326), (174, 24401), (206, 24632),

Gene: Twister6\_35 Start: 28645, Stop: 29817, Start Num: 10

Candidate Starts for Twister6\_35:

(Start: 10 @28645 has 13 MA's), (26, 28786), (29, 28804), (63, 28939), (77, 29005), (100, 29092), (112, 29194), (145, 29299), (166, 29425), (167, 29431), (179, 29539), (182, 29557), (217, 29782),

Gene: Typhonomachy\_26 Start: 20517, Stop: 21647, Start Num: 21

Candidate Starts for Typhonomachy\_26:

(Start: 21 @20517 has 28 MA's), (24, 20535), (45, 20640), (90, 20838), (111, 20952), (112, 20970), (114, 20979), (123, 21033), (137, 21114), (141, 21126), (147, 21159), (170, 21306), (173, 21345), (178, 21390), (182, 21408), (186, 21432), (193, 21489), (202, 21549), (207, 21585), (215, 21615), (218, 21636),

Gene: VanDeWege\_36 Start: 28981, Stop: 30153, Start Num: 10

Candidate Starts for VanDeWege\_36:

(Start: 10 @28981 has 13 MA's), (29, 29140), (63, 29275), (77, 29341), (100, 29428), (112, 29530), (145, 29635), (166, 29761), (167, 29767), (179, 29875), (182, 29893), (217, 30118),

Gene: Vendetta\_29 Start: 22610, Stop: 23578, Start Num: 37

Candidate Starts for Vendetta\_29:

(13, 22433), (30, 22577), (34, 22601), (Start: 37 @22610 has 3 MA's), (Start: 42 @22625 has 3 MA's), (85, 22805), (98, 22865), (111, 22958), (112, 22976), (119, 23012), (120, 23015), (130, 23030), (159, 23138), (161, 23150), (168, 23216), (172, 23249), (178, 23312), (185, 23354), (186, 23360), (188, 23387), (189, 23390), (191, 23408), (192, 23411), (198, 23450), (200, 23456), (204, 23489), (218, 23567),

Gene: Verity\_36 Start: 33271, Stop: 34347, Start Num: 31

Candidate Starts for Verity\_36:

(Start: 31 @33271 has 16 MA's), (58, 33379), (69, 33424), (74, 33445), (106, 33592), (112, 33643), (120, 33682), (124, 33724), (138, 33790), (140, 33805), (145, 33832), (148, 33847), (160, 33904), (166, 33958), (167, 33964), (172, 34003), (179, 34072), (182, 34093), (186, 34117), (196, 34192), (206, 34270), (219, 34336),

Gene: ViaConlectus\_37 Start: 31720, Stop: 32796, Start Num: 31

Candidate Starts for ViaConlectus\_37:

(7, 31426), (22, 31654), (Start: 31 @31720 has 16 MA's), (58, 31828), (70, 31876), (74, 31894), (106, 32041), (108, 32053), (112, 32092), (120, 32131), (124, 32173), (138, 32239), (140, 32254), (145, 32281), (148, 32296), (166, 32407), (172, 32452), (174, 32482), (176, 32500), (179, 32521), (186, 32566), (206, 32719), (219, 32785),

Gene: Vine\_26 Start: 21286, Stop: 22272, Start Num: 44

Candidate Starts for Vine\_26:

(Start: 44 @21286 has 5 MA's), (92, 21475), (112, 21592), (137, 21721), (140, 21730), (153, 21799), (158, 21823), (166, 21883), (174, 21958), (182, 22018), (183, 22021), (204, 22168), (209, 22204), (217, 22240), (220, 22258),

Gene: William\_29 Start: 23441, Stop: 24427, Start Num: 49

Candidate Starts for William\_29:

(38, 23381), (Start: 49 @23441 has 7 MA's), (68, 23504), (Start: 81 @23552 has 1 MA's), (103, 23648), (112, 23729), (113, 23732), (117, 23756), (125, 23825), (134, 23852), (156, 23960), (157, 23963), (166, 24026), (168, 24038), (174, 24101), (186, 24182), (189, 24212), (206, 24332),

Gene: WinkNick\_26 Start: 22010, Stop: 23047, Start Num: 36

Candidate Starts for WinkNick\_26:

(11, 21839), (12, 21842), (Start: 36 @22010 has 17 MA's), (50, 22079), (53, 22085), (100, 22265), (103, 22286), (112, 22367), (117, 22394), (133, 22487), (157, 22595), (166, 22658), (174, 22733), (206, 22964),

Gene: Wocket\_30 Start: 24063, Stop: 25040, Start Num: 49

Candidate Starts for Wocket\_30:

(38, 24003), (Start: 49 @24063 has 7 MA's), (73, 24144), (Start: 81 @24177 has 1 MA's), (89, 24204), (103, 24270), (110, 24327), (112, 24351), (156, 24582), (157, 24585), (166, 24648), (172, 24693), (179, 24762), (206, 24954), (217, 25005),

Gene: Yarn\_24 Start: 20174, Stop: 21286, Start Num: 21

Candidate Starts for Yarn\_24:

(Start: 21 @20174 has 28 MA's), (24, 20192), (45, 20297), (72, 20420), (111, 20609), (112, 20627), (114, 20636), (115, 20648), (137, 20753), (153, 20837), (170, 20945), (178, 21029), (182, 21047), (187, 21080), (195, 21143), (198, 21161), (199, 21164), (200, 21167), (207, 21224),

Gene: Yummy\_26 Start: 20064, Stop: 21200, Start Num: 21

Candidate Starts for Yummy\_26:

(15, 19995), (Start: 21 @20064 has 28 MA's), (24, 20082), (45, 20187), (111, 20499), (112, 20517), (114, 20526), (118, 20550), (122, 20577), (141, 20679), (164, 20808), (170, 20859), (172, 20880), (178, 20943), (182, 20961), (187, 20994), (195, 21057), (212, 21153),

Gene: YungMoney\_35 Start: 29700, Stop: 30950, Start Num: 10

Candidate Starts for YungMoney\_35:

(Start: 10 @29700 has 13 MA's), (23, 29814), (29, 29859), (32, 29880), (69, 30024), (77, 30060), (100, 30147), (112, 30249), (117, 30276), (127, 30357), (153, 30480), (154, 30483), (157, 30501), (167, 30570), (179, 30678),

Gene: Zareef\_29 Start: 21489, Stop: 22589, Start Num: 21

Candidate Starts for Zareef\_29:

(Start: 21 @21489 has 28 MA's), (24, 21507), (45, 21612), (76, 21750), (94, 21828), (97, 21840), (102, 21855), (111, 21924), (112, 21942), (116, 21966), (153, 22134), (178, 22326), (181, 22347), (182, 22350), (187, 22383), (195, 22446), (198, 22464), (200, 22470), (218, 22578),

Gene: Zipp\_36 Start: 33174, Stop: 34250, Start Num: 31

Candidate Starts for Zipp\_36:

(Start: 31 @33174 has 16 MA's), (58, 33282), (70, 33330), (74, 33348), (106, 33495), (108, 33507), (112, 33546), (120, 33585), (124, 33627), (138, 33693), (140, 33708), (145, 33735), (148, 33750), (160, 33807), (166, 33861), (172, 33906), (179, 33975), (182, 33996), (186, 34020), (196, 34095), (206, 34173), (219, 34239),

Gene: Zitch\_38 Start: 31061, Stop: 32053, Start Num: 31

Candidate Starts for Zitch\_38:

(Start: 31 @31061 has 16 MA's), (58, 31169), (70, 31217), (74, 31235), (106, 31382), (108, 31394), (111, 31415), (112, 31433), (145, 31538), (160, 31610), (166, 31664), (172, 31709), (179, 31778), (182, 31799), (186, 31823), (196, 31898), (206, 31976), (219, 32042),