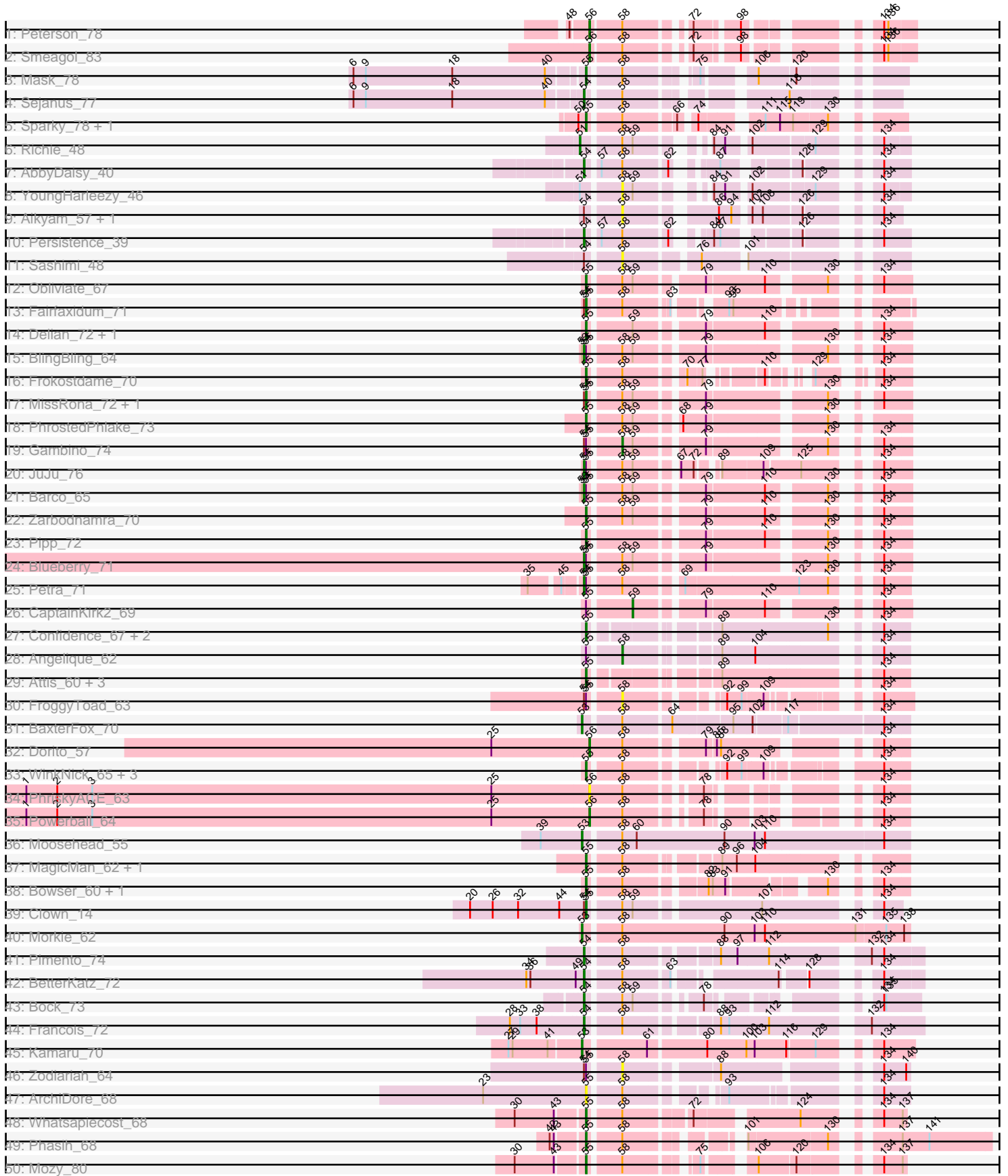
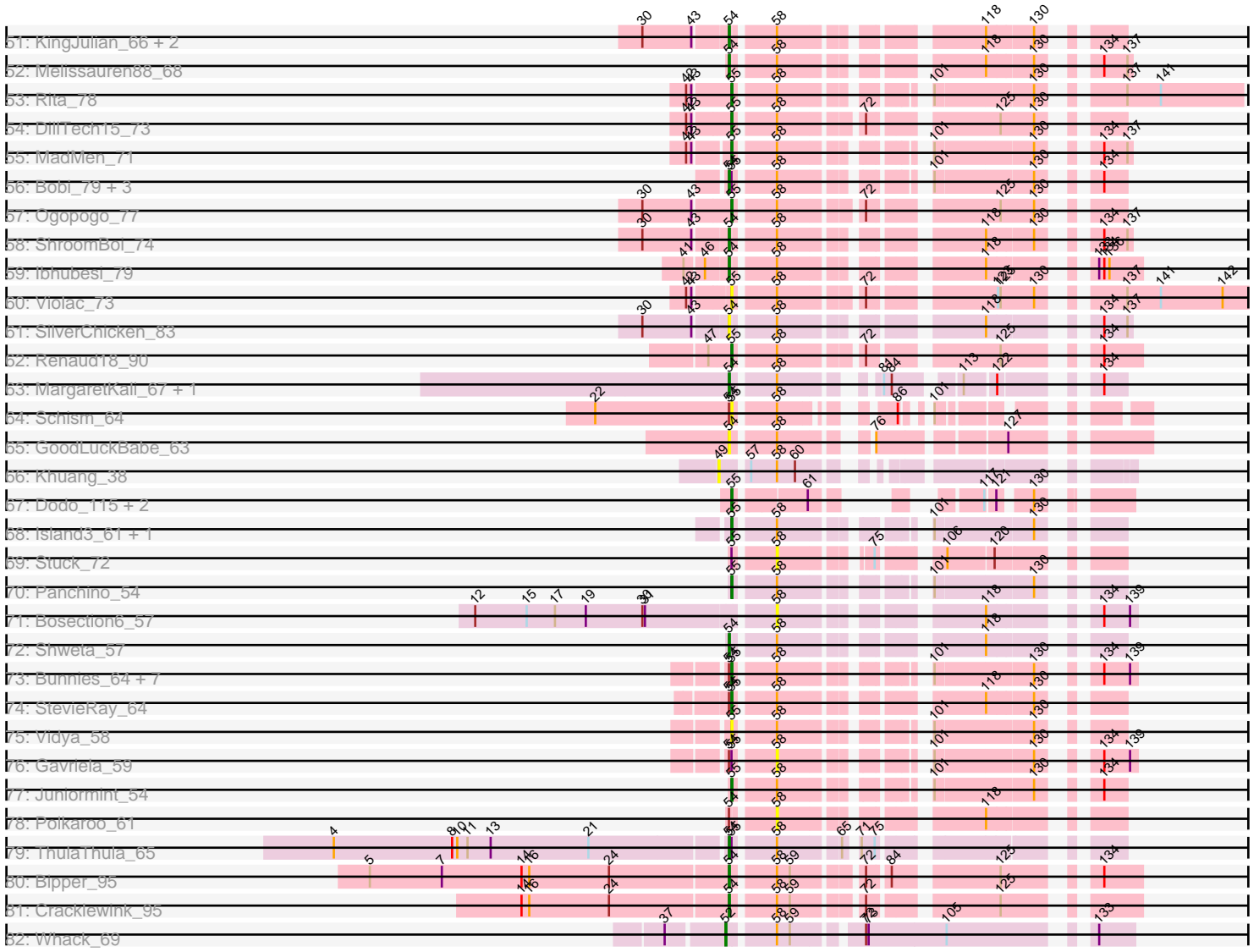


Pham 215995



Pham 215995



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 215995 Report

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

Pham number 215995 has 112 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Peterson_78
- Track 2 : Smeagol_83
- Track 3 : Mask_78
- Track 4 : Sejanus_77
- Track 5 : Sparky_78, Farewell_79
- Track 6 : Richie_48
- Track 7 : AbbyDaisy_40
- Track 8 : YoungHarleezy_46
- Track 9 : Aikyam_57, MaterMagnus_59
- Track 10 : Persistence_39
- Track 11 : Sashimi_48
- Track 12 : Obliviate_67
- Track 13 : Fairfaxidum_71
- Track 14 : Delian_72, MintFen_69
- Track 15 : BlingBling_64
- Track 16 : Frokostdame_70
- Track 17 : MissRona_72, Azula_72
- Track 18 : PhrostedPhlake_73
- Track 19 : Gambino_74
- Track 20 : JuJu_76
- Track 21 : Barco_65
- Track 22 : Zarbodnamra_70
- Track 23 : Pipp_72
- Track 24 : Blueberry_71
- Track 25 : Petra_71
- Track 26 : CaptainKirk2_69
- Track 27 : Confidence_67, Hyzer_79, Bunnybear_62
- Track 28 : Angelique_62
- Track 29 : Attis_60, SoilAssassin_60, LordFarquaad_62, FroggyToad_61
- Track 30 : FroggyToad_63
- Track 31 : BaxterFox_70
- Track 32 : Dorito_57
- Track 33 : WinkNick_65, Easley_62, Dolores_65, Sekhmet_64
- Track 34 : PhriskyACE_63
- Track 35 : Powerball_64
- Track 36 : Moosehead_55
- Track 37 : MagicMan_62, Opie_65

- Track 38 : Bowser_60, TaronosaurusRx_68
- Track 39 : Clown_14
- Track 40 : Morkie_62
- Track 41 : Pimento_74
- Track 42 : BetterKatz_72
- Track 43 : Bock_73
- Track 44 : Francois_72
- Track 45 : Kamaru_70
- Track 46 : Zodiariah_64
- Track 47 : ArchiDore_68
- Track 48 : Whatsapiecost_68
- Track 49 : Phasih_68
- Track 50 : Mozy_80
- Track 51 : KingJulian_66, Flathead_71, Corium_66
- Track 52 : Melissauren88_68
- Track 53 : Rita_78
- Track 54 : DillTech15_73
- Track 55 : MadMen_71
- Track 56 : Bobi_79, Atcoo_61, Brusacoram_61, Thespis_61
- Track 57 : Ogopogo_77
- Track 58 : ShroomBoi_74
- Track 59 : Ibhubesi_79
- Track 60 : Violac_73
- Track 61 : SilverChicken_83
- Track 62 : Renaud18_90
- Track 63 : MargaretKali_67, Kumotta_71
- Track 64 : Schism_64
- Track 65 : GoodLuckBabe_63
- Track 66 : Khuang_38
- Track 67 : Dodo_115, PauloDiaboli_115, A3Wally_115
- Track 68 : Island3_61, Brujita_60
- Track 69 : Stuck_72
- Track 70 : Panchino_54
- Track 71 : Bosection6_57
- Track 72 : Shweta_57
- Track 73 : Bunnies_64, CactusJack_59, Willsammy_59, Glaske_58, Ksquared_62, KilKor_59, Phalm_59, StressBall_59
- Track 74 : StevieRay_64
- Track 75 : Vidya_58
- Track 76 : Gavriela_59
- Track 77 : Juniormint_54
- Track 78 : Polkaroo_61
- Track 79 : ThulaThula_65
- Track 80 : Bipper_95
- Track 81 : Cracklewink_95
- Track 82 : Whack_69

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

The start number called the most often in the published annotations is 55, it was called in 49 of the 88 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A3Wally_115, ArchiDore_68, Attis_60, Azula_72, Bowser_60, Brujita_60, Bunnies_64, Bunnybear_62, CactusJack_59, Clown_14, Confidence_67, Delian_72, DillTech15_73, Dodo_115, Dolores_65, Easley_62, Fairfaxidum_71, Farewell_79, FroggyToad_61, Frokostdame_70, Glaske_58, Hyzer_79, Island3_61, Juniormint_54, KilKor_59, Ksquared_62, LordFarquaad_62, MadMen_71, MagicMan_62, Mask_78, MintFen_69, MissRona_72, Mozy_80, Obliviate_67, Ogopogo_77, Opie_65, Panchino_54, PauloDiaboli_115, Phalm_59, Phasih_68, PhrostedPhlake_73, Pipp_72, Renaud18_90, Rita_78, Schism_64, Sekhmet_64, SoilAssassin_60, Sparky_78, StevieRay_64, StressBall_59, TaronosaurusRx_68, Vidya_58, Violac_73, Whatsapiecost_68, Willsammy_59, WinkNick_65, Zarbodnamra_70,

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

- Angelique_62, Atcoo_61, Barco_65, BlingBling_64, Blueberry_71, Bobi_79, Brusacoram_61, CaptainKirk2_69, FroggyToad_63, Gambino_74, Gavriela_59, JuJu_76, Petra_71, Stuck_72, Thespi_61, ThulaThula_65, Zodiariah_64,

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

- AbbyDaisy_40, Aikyam_57, BaxterFox_70, BetterKatz_72, Bipper_95, Bock_73, Bosection6_57, Corium_66, Cracklewink_95, Dorito_57, Flathead_71, Francois_72, GoodLuckBabe_63, Ibhubesi_79, Kamaru_70, Khuang_38, KingJulian_66, Kumotta_71, MargaretKali_67, MaterMagnus_59, Melissauren88_68, Moosehead_55, Morkie_62, Persistence_39, Peterson_78, PhriskyACE_63, Pimento_74, Polkaroo_61, Powerball_64, Richie_48, Sashimi_48, Sejanus_77, ShroomBoi_74, Shweta_57, SilverChicken_83, Smeagol_83, Whack_69, YoungHarleezy_46,

Summary by start number:

Start 49:

- Found in 2 of 112 (1.8%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Khuang_38 (FS),

Start 51:

- Found in 2 of 112 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 88
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Richie_48 (AY),

Start 52:

- Found in 1 of 112 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 88
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Whack_69 (singleton),

Start 53:

- Found in 6 of 112 (5.4%) of genes in pham
- Manual Annotations of this start: 4 of 88

- Called 66.7% of time when present
- Phage (with cluster) where this start called: BaxterFox_70 (CZ3), Kamaru_70 (DN1), Moosehead_55 (CZ6), Morkie_62 (DH),

Start 54:

- Found in 52 of 112 (46.4%) of genes in pham
- Manual Annotations of this start: 26 of 88
- Called 57.7% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_40 (AY), Atcoo_61 (P1), Barco_65 (CV), BetterKatz_72 (DI), Bipper_95 (Y), BlingBling_64 (CV), Blueberry_71 (CV), Bobi_79 (F1), Bock_73 (DI), Brusacoram_61 (P1), Corium_66 (F1), Cracklewink_95 (Y), Flathead_71 (F1), Francois_72 (DI), GoodLuckBabe_63 (FF), Ibhuesi_79 (F1), JuJu_76 (CV), KingJulian_66 (F1), Kumotta_71 (FB), MargaretKali_67 (FB), Melissauren88_68 (F1), Persistence_39 (AY), Petra_71 (CV), Pimento_74 (DI), Sejanus_77 (AD), ShroomBoi_74 (F1), Shweta_57 (N), SilverChicken_83 (F2), Thespis_61 (P1), ThulaThula_65 (P5),

Start 55:

- Found in 74 of 112 (66.1%) of genes in pham
- Manual Annotations of this start: 49 of 88
- Called 77.0% of time when present
- Phage (with cluster) where this start called: A3Wally_115 (GD1), ArchiDore_68 (DW), Attis_60 (CZ2), Azula_72 (CV), Bowser_60 (DB), Brujita_60 (I1), Bunnies_64 (P1), Bunnybear_62 (CZ), CactusJack_59 (P1), Clown_14 (DC2), Confidence_67 (CY1), Delian_72 (CV), DillTech15_73 (F1), Dodo_115 (GD1), Dolores_65 (CZ4), Easley_62 (CZ4), Fairfaxidum_71 (CV), Farewell_79 (AF), FroggyToad_61 (CZ2), Frokostdame_70 (CV), Glaske_58 (P1), Hyzer_79 (CZ1), Island3_61 (I1), Juniomint_54 (P1), KilKor_59 (P1), Ksquared_62 (P1), LordFarquaad_62 (CZ2), MadMen_71 (F1), MagicMan_62 (DB), Mask_78 (AD), MintFen_69 (CV), MissRona_72 (CV), Mozy_80 (F1), Obliviate_67 (CV), Ogopogo_77 (F1), Opie_65 (DB), Panchino_54 (N), PauloDiaboli_115 (GD1), Phalm_59 (P1), Phasih_68 (F1), PhrostedPhlake_73 (CV), Pipp_72 (CV), Renaud18_90 (F4), Rita_78 (F1), Schism_64 (FF), Sekhmet_64 (CZ4), SoilAssassin_60 (CZ2), Sparky_78 (AF), StevieRay_64 (P1), StressBall_59 (P1), TaronosaurusRx_68 (DB), Vidya_58 (P1), Violac_73 (F1), Whatsapiecost_68 (F1), Willsammy_59 (P1), WinkNick_65 (CZ4), Zarbodnamra_70 (CV),

Start 56:

- Found in 5 of 112 (4.5%) of genes in pham
- Manual Annotations of this start: 4 of 88
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dorito_57 (CZ4), Peterson_78 (A1), PhriskyACE_63 (CZ4), Powerball_64 (CZ4), Smeagol_83 (A1),

Start 58:

- Found in 97 of 112 (86.6%) of genes in pham
- Manual Annotations of this start: 2 of 88
- Called 12.4% of time when present
- Phage (with cluster) where this start called: Aikyam_57 (AY), Angelique_62 (CY1), Bosection6_57 (N), FroggyToad_63 (CZ2), Gambino_74 (CV), Gavriela_59 (P1), MaterMagnus_59 (AY), Polkaroo_61 (P1), Sashimi_48 (AY), Stuck_72 (I2), YoungHarleezy_46 (AY), Zodiariah_64 (DW),

Start 59:

- Found in 20 of 112 (17.9%) of genes in pham
- Manual Annotations of this start: 1 of 88
- Called 5.0% of time when present
- Phage (with cluster) where this start called: CaptainKirk2_69 (CV),

Summary by clusters:

There are 32 clusters represented in this pham: GD1, singleton, FS, DH, DI, CZ2, CZ3, CZ1, DB, CZ4, AY, FB, FF, DW, I1, AF, A1, DN1, CY1, P1, AD, P5, CZ6, N, CZ, Y, DC2, CV, F1, F2, F4, I2,

Info for manual annotations of cluster A1:

- Start number 56 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster AD:

- Start number 54 was manually annotated 1 time for cluster AD.
- Start number 55 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster AF:

- Start number 55 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster AY:

- Start number 51 was manually annotated 1 time for cluster AY.
- Start number 54 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster CV:

- Start number 54 was manually annotated 5 times for cluster CV.
- Start number 55 was manually annotated 10 times for cluster CV.
- Start number 58 was manually annotated 1 time for cluster CV.
- Start number 59 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 55 was manually annotated 1 time for cluster CY1.
- Start number 58 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CZ:

- Start number 55 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 55 was manually annotated 3 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 53 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 55 was manually annotated 4 times for cluster CZ4.
- Start number 56 was manually annotated 2 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 53 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DB:

- Start number 55 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DC2:

- Start number 55 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DH:

- Start number 53 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DI:

- Start number 54 was manually annotated 4 times for cluster DI.

Info for manual annotations of cluster DN1:

- Start number 53 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster F1:

- Start number 54 was manually annotated 5 times for cluster F1.
- Start number 55 was manually annotated 7 times for cluster F1.

Info for manual annotations of cluster F4:

- Start number 55 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster FB:

- Start number 54 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster GD1:

- Start number 55 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster I1:

- Start number 55 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster N:

- Start number 54 was manually annotated 1 time for cluster N.
- Start number 55 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P1:

- Start number 54 was manually annotated 3 times for cluster P1.
- Start number 55 was manually annotated 10 times for cluster P1.

Info for manual annotations of cluster P5:

- Start number 54 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster Y:

- Start number 54 was manually annotated 2 times for cluster Y.

Gene Information:

Gene: A3Wally_115 Start: 79463, Stop: 79188, Start Num: 55
Candidate Starts for A3Wally_115:
(Start: 55 @79463 has 49 MA's), (61, 79391), (117, 79298), (121, 79289), (130, 79259),

Gene: AbbyDaisy_40 Start: 28577, Stop: 28236, Start Num: 54
Candidate Starts for AbbyDaisy_40:
(Start: 54 @28577 has 26 MA's), (57, 28562), (Start: 58 @28532 has 2 MA's), (62, 28475), (87, 28436),
(126, 28346), (134, 28274),

Gene: Aikyam_57 Start: 32072, Stop: 32380, Start Num: 58
Candidate Starts for Aikyam_57:
(Start: 54 @32027 has 26 MA's), (Start: 58 @32072 has 2 MA's), (86, 32180), (94, 32198), (102,
32216), (108, 32231), (126, 32282), (134, 32354),

Gene: Angelique_62 Start: 44919, Stop: 45251, Start Num: 58
Candidate Starts for Angelique_62:
(Start: 55 @44877 has 49 MA's), (Start: 58 @44919 has 2 MA's), (89, 45030), (104, 45078), (134,
45216),

Gene: ArchiDore_68 Start: 47597, Stop: 47950, Start Num: 55
Candidate Starts for ArchiDore_68:
(23, 47447), (Start: 55 @47597 has 49 MA's), (Start: 58 @47639 has 2 MA's), (93, 47750), (134,
47915),

Gene: Atcoo_61 Start: 41458, Stop: 41793, Start Num: 54
Candidate Starts for Atcoo_61:
(Start: 54 @41458 has 26 MA's), (Start: 55 @41461 has 49 MA's), (Start: 58 @41503 has 2 MA's),
(101, 41620), (130, 41728), (134, 41767),

Gene: Attis_60 Start: 40973, Stop: 41338, Start Num: 55
Candidate Starts for Attis_60:
(Start: 55 @40973 has 49 MA's), (89, 41117), (134, 41303),

Gene: Azula_72 Start: 45840, Stop: 46205, Start Num: 55
Candidate Starts for Azula_72:
(Start: 54 @45837 has 26 MA's), (Start: 55 @45840 has 49 MA's), (Start: 58 @45882 has 2 MA's),
(Start: 59 @45897 has 1 MA's), (79, 45981), (130, 46131), (134, 46167),

Gene: Barco_65 Start: 42185, Stop: 42556, Start Num: 54
Candidate Starts for Barco_65:
(Start: 53 @42182 has 4 MA's), (Start: 54 @42185 has 26 MA's), (Start: 55 @42188 has 49 MA's),
(Start: 58 @42230 has 2 MA's), (Start: 59 @42245 has 1 MA's), (79, 42329), (110, 42407), (130,
42479), (134, 42518),

Gene: BaxterFox_70 Start: 47064, Stop: 47483, Start Num: 53
Candidate Starts for BaxterFox_70:
(Start: 53 @47064 has 4 MA's), (Start: 58 @47112 has 2 MA's), (64, 47175), (95, 47256), (102, 47280),
(117, 47322), (134, 47448),

Gene: BetterKatz_72 Start: 48566, Stop: 48934, Start Num: 54
Candidate Starts for BetterKatz_72:
(34, 48482), (36, 48488), (49, 48554), (Start: 54 @48566 has 26 MA's), (Start: 58 @48611 has 2 MA's),
(63, 48671), (114, 48788), (128, 48815), (134, 48881),

Gene: Bipper_95 Start: 60239, Stop: 60613, Start Num: 54

Candidate Starts for Bipper_95:

(5, 59825), (7, 59909), (14, 60002), (16, 60011), (24, 60104), (Start: 54 @60239 has 26 MA's), (Start: 58 @60284 has 2 MA's), (Start: 59 @60299 has 1 MA's), (72, 60365), (84, 60386), (125, 60491), (134, 60569),

Gene: BlingBling_64 Start: 43067, Stop: 43438, Start Num: 54

Candidate Starts for BlingBling_64:

(Start: 53 @43064 has 4 MA's), (Start: 54 @43067 has 26 MA's), (Start: 55 @43070 has 49 MA's), (Start: 58 @43112 has 2 MA's), (Start: 59 @43127 has 1 MA's), (79, 43211), (130, 43361), (134, 43400),

Gene: Blueberry_71 Start: 45837, Stop: 46205, Start Num: 54

Candidate Starts for Blueberry_71:

(Start: 54 @45837 has 26 MA's), (Start: 55 @45840 has 49 MA's), (Start: 58 @45882 has 2 MA's), (Start: 59 @45897 has 1 MA's), (79, 45981), (130, 46131), (134, 46167),

Gene: Bobi_79 Start: 48352, Stop: 48687, Start Num: 54

Candidate Starts for Bobi_79:

(Start: 54 @48352 has 26 MA's), (Start: 55 @48355 has 49 MA's), (Start: 58 @48397 has 2 MA's), (101, 48514), (130, 48622), (134, 48661),

Gene: Bock_73 Start: 48168, Stop: 48518, Start Num: 54

Candidate Starts for Bock_73:

(Start: 54 @48168 has 26 MA's), (Start: 58 @48213 has 2 MA's), (Start: 59 @48228 has 1 MA's), (78, 48300), (134, 48465), (135, 48468),

Gene: Bosection6_57 Start: 38193, Stop: 38504, Start Num: 58

Candidate Starts for Bosection6_57:

(12, 37857), (15, 37917), (17, 37950), (19, 37986), (30, 38052), (31, 38055), (Start: 58 @38193 has 2 MA's), (118, 38376), (134, 38466), (139, 38496),

Gene: Bowser_60 Start: 41674, Stop: 42021, Start Num: 55

Candidate Starts for Bowser_60:

(Start: 55 @41674 has 49 MA's), (Start: 58 @41716 has 2 MA's), (82, 41812), (83, 41818), (91, 41836), (130, 41947), (134, 41986),

Gene: Brujita_60 Start: 39319, Stop: 39651, Start Num: 55

Candidate Starts for Brujita_60:

(Start: 55 @39319 has 49 MA's), (Start: 58 @39361 has 2 MA's), (101, 39478), (130, 39586),

Gene: Brusacoram_61 Start: 40001, Stop: 40336, Start Num: 54

Candidate Starts for Brusacoram_61:

(Start: 54 @40001 has 26 MA's), (Start: 55 @40004 has 49 MA's), (Start: 58 @40046 has 2 MA's), (101, 40163), (130, 40271), (134, 40310),

Gene: Bunnies_64 Start: 41294, Stop: 41638, Start Num: 55

Candidate Starts for Bunnies_64:

(Start: 54 @41291 has 26 MA's), (Start: 55 @41294 has 49 MA's), (Start: 58 @41336 has 2 MA's), (101, 41453), (130, 41561), (134, 41600), (139, 41630),

Gene: Bunnybear_62 Start: 45138, Stop: 45503, Start Num: 55

Candidate Starts for Bunnybear_62:

(Start: 55 @45138 has 49 MA's), (89, 45282), (130, 45429), (134, 45468),

Gene: CactusJack_59 Start: 40162, Stop: 40506, Start Num: 55

Candidate Starts for CactusJack_59:

(Start: 54 @40159 has 26 MA's), (Start: 55 @40162 has 49 MA's), (Start: 58 @40204 has 2 MA's), (101, 40321), (130, 40429), (134, 40468), (139, 40498),

Gene: CaptainKirk2_69 Start: 41893, Stop: 42204, Start Num: 59

Candidate Starts for CaptainKirk2_69:

(Start: 55 @41836 has 49 MA's), (Start: 59 @41893 has 1 MA's), (79, 41977), (110, 42055), (134, 42166),

Gene: Clown_14 Start: 8028, Stop: 8411, Start Num: 55

Candidate Starts for Clown_14:

(20, 7860), (26, 7893), (32, 7929), (44, 7989), (Start: 54 @8025 has 26 MA's), (Start: 55 @8028 has 49 MA's), (Start: 58 @8070 has 2 MA's), (Start: 59 @8085 has 1 MA's), (107, 8250), (134, 8385),

Gene: Confidence_67 Start: 44239, Stop: 44604, Start Num: 55

Candidate Starts for Confidence_67:

(Start: 55 @44239 has 49 MA's), (89, 44383), (130, 44530), (134, 44569),

Gene: Corium_66 Start: 44159, Stop: 44500, Start Num: 54

Candidate Starts for Corium_66:

(30, 44066), (43, 44123), (Start: 54 @44159 has 26 MA's), (Start: 58 @44201 has 2 MA's), (118, 44384), (130, 44435),

Gene: Cracklewink_95 Start: 59474, Stop: 59848, Start Num: 54

Candidate Starts for Cracklewink_95:

(14, 59237), (16, 59246), (24, 59339), (Start: 54 @59474 has 26 MA's), (Start: 58 @59519 has 2 MA's), (Start: 59 @59534 has 1 MA's), (72, 59600), (125, 59726),

Gene: Delian_72 Start: 41834, Stop: 42202, Start Num: 55

Candidate Starts for Delian_72:

(Start: 55 @41834 has 49 MA's), (Start: 59 @41891 has 1 MA's), (79, 41975), (110, 42053), (134, 42164),

Gene: DillTech15_73 Start: 44178, Stop: 44531, Start Num: 55

Candidate Starts for DillTech15_73:

(42, 44133), (43, 44139), (Start: 55 @44178 has 49 MA's), (Start: 58 @44220 has 2 MA's), (72, 44301), (125, 44427), (130, 44466),

Gene: Dodo_115 Start: 79773, Stop: 79498, Start Num: 55

Candidate Starts for Dodo_115:

(Start: 55 @79773 has 49 MA's), (61, 79701), (117, 79608), (121, 79599), (130, 79569),

Gene: Dolores_65 Start: 41484, Stop: 41837, Start Num: 55

Candidate Starts for Dolores_65:

(Start: 55 @41484 has 49 MA's), (Start: 58 @41526 has 2 MA's), (92, 41631), (99, 41652), (109, 41679), (134, 41802),

Gene: Dorito_57 Start: 39050, Stop: 39421, Start Num: 56

Candidate Starts for Dorito_57:

(25, 38909), (Start: 56 @39050 has 4 MA's), (Start: 58 @39098 has 2 MA's), (79, 39197), (85, 39209), (88, 39215), (134, 39386),

Gene: Easley_62 Start: 40977, Stop: 41312, Start Num: 55

Candidate Starts for Easley_62:

(Start: 55 @40977 has 49 MA's), (Start: 58 @41019 has 2 MA's), (92, 41124), (99, 41145), (109, 41172), (134, 41277),

Gene: Fairfaxidum_71 Start: 44423, Stop: 44767, Start Num: 55

Candidate Starts for Fairfaxidum_71:

(Start: 54 @44420 has 26 MA's), (Start: 55 @44423 has 49 MA's), (Start: 58 @44465 has 2 MA's), (63, 44522), (93, 44576), (95, 44582),

Gene: Farewell_79 Start: 52056, Stop: 52409, Start Num: 55

Candidate Starts for Farewell_79:

(50, 52047), (Start: 55 @52056 has 49 MA's), (Start: 58 @52098 has 2 MA's), (66, 52164), (74, 52182), (111, 52251), (115, 52272), (119, 52290), (130, 52338),

Gene: Flathead_71 Start: 44823, Stop: 45164, Start Num: 54

Candidate Starts for Flathead_71:

(30, 44730), (43, 44787), (Start: 54 @44823 has 26 MA's), (Start: 58 @44865 has 2 MA's), (118, 45048), (130, 45099),

Gene: Francois_72 Start: 48407, Stop: 48832, Start Num: 54

Candidate Starts for Francois_72:

(28, 48302), (33, 48317), (38, 48341), (Start: 54 @48407 has 26 MA's), (Start: 58 @48452 has 2 MA's), (88, 48566), (93, 48578), (112, 48635), (132, 48758),

Gene: FroggyToad_61 Start: 41480, Stop: 41845, Start Num: 55

Candidate Starts for FroggyToad_61:

(Start: 55 @41480 has 49 MA's), (89, 41624), (134, 41810),

Gene: FroggyToad_63 Start: 42129, Stop: 42428, Start Num: 58

Candidate Starts for FroggyToad_63:

(Start: 54 @42084 has 26 MA's), (Start: 55 @42087 has 49 MA's), (Start: 58 @42129 has 2 MA's), (92, 42234), (99, 42255), (109, 42282), (134, 42387),

Gene: Frokostdame_70 Start: 45207, Stop: 45515, Start Num: 55

Candidate Starts for Frokostdame_70:

(Start: 55 @45207 has 49 MA's), (Start: 58 @45249 has 2 MA's), (70, 45318), (77, 45336), (110, 45390), (129, 45420), (134, 45477),

Gene: Gambino_74 Start: 45882, Stop: 46205, Start Num: 58

Candidate Starts for Gambino_74:

(Start: 54 @45837 has 26 MA's), (Start: 55 @45840 has 49 MA's), (Start: 58 @45882 has 2 MA's), (Start: 59 @45897 has 1 MA's), (79, 45981), (130, 46131), (134, 46167),

Gene: Gavriela_59 Start: 40204, Stop: 40506, Start Num: 58

Candidate Starts for Gavriela_59:

(Start: 54 @40159 has 26 MA's), (Start: 55 @40162 has 49 MA's), (Start: 58 @40204 has 2 MA's), (101, 40321), (130, 40429), (134, 40468), (139, 40498),

Gene: Glaske_58 Start: 40162, Stop: 40506, Start Num: 55

Candidate Starts for Glaske_58:

(Start: 54 @40159 has 26 MA's), (Start: 55 @40162 has 49 MA's), (Start: 58 @40204 has 2 MA's), (101, 40321), (130, 40429), (134, 40468), (139, 40498),

Gene: GoodLuckBabe_63 Start: 38416, Stop: 38787, Start Num: 54

Candidate Starts for GoodLuckBabe_63:

(Start: 54 @38416 has 26 MA's), (Start: 58 @38461 has 2 MA's), (76, 38536), (127, 38662),

Gene: Hyzer_79 Start: 52741, Stop: 53109, Start Num: 55

Candidate Starts for Hyzer_79:

(Start: 55 @52741 has 49 MA's), (89, 52885), (130, 53032), (134, 53071),

Gene: lbhubesi_79 Start: 46556, Stop: 46915, Start Num: 54

Candidate Starts for lbhubesi_79:

(41, 46514), (46, 46532), (Start: 54 @46556 has 26 MA's), (Start: 58 @46598 has 2 MA's), (118, 46781), (133, 46865), (134, 46871), (136, 46877),

Gene: Island3_61 Start: 39319, Stop: 39651, Start Num: 55

Candidate Starts for Island3_61:

(Start: 55 @39319 has 49 MA's), (Start: 58 @39361 has 2 MA's), (101, 39478), (130, 39586),

Gene: JuJu_76 Start: 47574, Stop: 47936, Start Num: 54

Candidate Starts for JuJu_76:

(Start: 54 @47574 has 26 MA's), (Start: 55 @47577 has 49 MA's), (Start: 58 @47619 has 2 MA's), (Start: 59 @47634 has 1 MA's), (67, 47682), (72, 47700), (89, 47718), (109, 47772), (125, 47820), (134, 47898),

Gene: Juniormint_54 Start: 36223, Stop: 36555, Start Num: 55

Candidate Starts for Juniormint_54:

(Start: 55 @36223 has 49 MA's), (Start: 58 @36265 has 2 MA's), (101, 36382), (130, 36490), (134, 36529),

Gene: Kamaru_70 Start: 42911, Stop: 43327, Start Num: 53

Candidate Starts for Kamaru_70:

(27, 42809), (29, 42815), (41, 42866), (Start: 53 @42911 has 4 MA's), (61, 42995), (80, 43073), (100, 43130), (103, 43142), (116, 43187), (129, 43226), (134, 43283),

Gene: Khuang_38 Start: 25760, Stop: 25416, Start Num: 49

Candidate Starts for Khuang_38:

(49, 25760), (57, 25736), (Start: 58 @25706 has 2 MA's), (60, 25685),

Gene: KilKor_59 Start: 40855, Stop: 41199, Start Num: 55

Candidate Starts for KilKor_59:

(Start: 54 @40852 has 26 MA's), (Start: 55 @40855 has 49 MA's), (Start: 58 @40897 has 2 MA's), (101, 41014), (130, 41122), (134, 41161), (139, 41191),

Gene: KingJulian_66 Start: 44159, Stop: 44500, Start Num: 54

Candidate Starts for KingJulian_66:

(30, 44066), (43, 44123), (Start: 54 @44159 has 26 MA's), (Start: 58 @44201 has 2 MA's), (118, 44384), (130, 44435),

Gene: Ksquared_62 Start: 41294, Stop: 41638, Start Num: 55

Candidate Starts for Ksquared_62:

(Start: 54 @41291 has 26 MA's), (Start: 55 @41294 has 49 MA's), (Start: 58 @41336 has 2 MA's), (101, 41453), (130, 41561), (134, 41600), (139, 41630),

Gene: Kumotta_71 Start: 37919, Stop: 38248, Start Num: 54

Candidate Starts for Kumotta_71:

(Start: 54 @37919 has 26 MA's), (Start: 58 @37964 has 2 MA's), (81, 38042), (84, 38051), (113, 38111), (122, 38144), (134, 38222),

Gene: LordFarquaad_62 Start: 40954, Stop: 41319, Start Num: 55

Candidate Starts for LordFarquaad_62:

(Start: 55 @40954 has 49 MA's), (89, 41098), (134, 41284),

Gene: MadMen_71 Start: 44891, Stop: 45229, Start Num: 55

Candidate Starts for MadMen_71:

(42, 44849), (43, 44855), (Start: 55 @44891 has 49 MA's), (Start: 58 @44933 has 2 MA's), (101, 45050), (130, 45158), (134, 45197), (137, 45224),

Gene: MagicMan_62 Start: 42714, Stop: 43088, Start Num: 55

Candidate Starts for MagicMan_62:

(Start: 55 @42714 has 49 MA's), (Start: 58 @42756 has 2 MA's), (89, 42867), (96, 42888), (104, 42915),

Gene: MargaretKali_67 Start: 36537, Stop: 36866, Start Num: 54

Candidate Starts for MargaretKali_67:

(Start: 54 @36537 has 26 MA's), (Start: 58 @36582 has 2 MA's), (81, 36660), (84, 36669), (113, 36729), (122, 36762), (134, 36840),

Gene: Mask_78 Start: 57551, Stop: 57895, Start Num: 55

Candidate Starts for Mask_78:

(6, 57227), (9, 57245), (18, 57371), (40, 57506), (Start: 55 @57551 has 49 MA's), (Start: 58 @57593 has 2 MA's), (75, 57674), (106, 57728), (120, 57779),

Gene: MaterMagnus_59 Start: 34244, Stop: 34552, Start Num: 58

Candidate Starts for MaterMagnus_59:

(Start: 54 @34199 has 26 MA's), (Start: 58 @34244 has 2 MA's), (86, 34352), (94, 34370), (102, 34388), (108, 34403), (126, 34454), (134, 34526),

Gene: Melissauren88_68 Start: 43644, Stop: 43991, Start Num: 54

Candidate Starts for Melissauren88_68:

(Start: 54 @43644 has 26 MA's), (Start: 58 @43686 has 2 MA's), (118, 43869), (130, 43920), (134, 43959), (137, 43986),

Gene: MintFen_69 Start: 42450, Stop: 42818, Start Num: 55

Candidate Starts for MintFen_69:

(Start: 55 @42450 has 49 MA's), (Start: 59 @42507 has 1 MA's), (79, 42591), (110, 42669), (134, 42780),

Gene: MissRona_72 Start: 45841, Stop: 46206, Start Num: 55

Candidate Starts for MissRona_72:

(Start: 54 @45838 has 26 MA's), (Start: 55 @45841 has 49 MA's), (Start: 58 @45883 has 2 MA's), (Start: 59 @45898 has 1 MA's), (79, 45982), (130, 46132), (134, 46168),

Gene: Moosehead_55 Start: 33633, Stop: 34088, Start Num: 53

Candidate Starts for Moosehead_55:

(39, 33573), (Start: 53 @33633 has 4 MA's), (Start: 58 @33681 has 2 MA's), (60, 33702), (90, 33828), (103, 33870), (110, 33885), (134, 34053),

Gene: Morkie_62 Start: 37124, Stop: 37579, Start Num: 53

Candidate Starts for Morkie_62:

(Start: 53 @37124 has 4 MA's), (Start: 58 @37172 has 2 MA's), (90, 37319), (103, 37361), (110, 37376), (131, 37505), (135, 37547), (138, 37571),

Gene: Mozy_80 Start: 45738, Stop: 46079, Start Num: 55

Candidate Starts for Mozy_80:

(30, 45645), (43, 45702), (Start: 55 @45738 has 49 MA's), (Start: 58 @45780 has 2 MA's), (75, 45861), (106, 45915), (120, 45966), (134, 46047), (137, 46074),

Gene: Obliviate_67 Start: 42359, Stop: 42727, Start Num: 55

Candidate Starts for Obliviate_67:

(Start: 55 @42359 has 49 MA's), (Start: 58 @42401 has 2 MA's), (Start: 59 @42416 has 1 MA's), (79, 42500), (110, 42578), (130, 42650), (134, 42689),

Gene: Ogopogo_77 Start: 45102, Stop: 45455, Start Num: 55

Candidate Starts for Ogopogo_77:

(30, 45006), (43, 45063), (Start: 55 @45102 has 49 MA's), (Start: 58 @45144 has 2 MA's), (72, 45225), (125, 45351), (130, 45390),

Gene: Opie_65 Start: 42832, Stop: 43206, Start Num: 55

Candidate Starts for Opie_65:

(Start: 55 @42832 has 49 MA's), (Start: 58 @42874 has 2 MA's), (89, 42985), (96, 43006), (104, 43033),

Gene: Panchino_54 Start: 38226, Stop: 38558, Start Num: 55

Candidate Starts for Panchino_54:

(Start: 55 @38226 has 49 MA's), (Start: 58 @38268 has 2 MA's), (101, 38385), (130, 38493),

Gene: PauloDiaboli_115 Start: 78808, Stop: 78533, Start Num: 55

Candidate Starts for PauloDiaboli_115:

(Start: 55 @78808 has 49 MA's), (61, 78736), (117, 78643), (121, 78634), (130, 78604),

Gene: Persistence_39 Start: 27398, Stop: 27057, Start Num: 54

Candidate Starts for Persistence_39:

(Start: 54 @27398 has 26 MA's), (57, 27383), (Start: 58 @27353 has 2 MA's), (62, 27296), (84, 27266), (87, 27257), (126, 27167), (134, 27095),

Gene: Peterson_78 Start: 48630, Stop: 48289, Start Num: 56

Candidate Starts for Peterson_78:

(48, 48654), (Start: 56 @48630 has 4 MA's), (Start: 58 @48588 has 2 MA's), (72, 48516), (98, 48462), (134, 48333), (136, 48327),

Gene: Petra_71 Start: 43963, Stop: 44358, Start Num: 54

Candidate Starts for Petra_71:

(35, 43900), (45, 43939), (Start: 54 @43963 has 26 MA's), (Start: 55 @43966 has 49 MA's), (Start: 58 @44008 has 2 MA's), (69, 44077), (123, 44239), (130, 44281), (134, 44320),

Gene: Phalm_59 Start: 40162, Stop: 40506, Start Num: 55

Candidate Starts for Phalm_59:

(Start: 54 @40159 has 26 MA's), (Start: 55 @40162 has 49 MA's), (Start: 58 @40204 has 2 MA's), (101, 40321), (130, 40429), (134, 40468), (139, 40498),

Gene: Phasih_68 Start: 44413, Stop: 44874, Start Num: 55

Candidate Starts for Phasih_68:

(42, 44371), (43, 44377), (Start: 55 @44413 has 49 MA's), (Start: 58 @44455 has 2 MA's), (101, 44572), (130, 44680), (137, 44746), (141, 44785),

Gene: PhriskyACE_63 Start: 42055, Stop: 42390, Start Num: 56

Candidate Starts for PhriskyACE_63:

(1, 41236), (2, 41281), (3, 41332), (25, 41914), (Start: 56 @42055 has 4 MA's), (Start: 58 @42103 has 2 MA's), (78, 42190), (134, 42355),

Gene: PhrostedPhlake_73 Start: 44238, Stop: 44606, Start Num: 55

Candidate Starts for PhrostedPhlake_73:

(Start: 55 @44238 has 49 MA's), (Start: 58 @44280 has 2 MA's), (Start: 59 @44295 has 1 MA's), (68, 44346), (79, 44379), (130, 44529),

Gene: Pimento_74 Start: 47870, Stop: 48292, Start Num: 54

Candidate Starts for Pimento_74:

(Start: 54 @47870 has 26 MA's), (Start: 58 @47915 has 2 MA's), (88, 48029), (97, 48053), (112, 48098), (132, 48221), (134, 48239),

Gene: Pipp_72 Start: 44407, Stop: 44775, Start Num: 55

Candidate Starts for Pipp_72:

(Start: 55 @44407 has 49 MA's), (79, 44548), (110, 44626), (130, 44698), (134, 44737),

Gene: Polkaroo_61 Start: 40802, Stop: 41101, Start Num: 58

Candidate Starts for Polkaroo_61:

(Start: 54 @40760 has 26 MA's), (Start: 58 @40802 has 2 MA's), (118, 40985),

Gene: Powerball_64 Start: 42164, Stop: 42493, Start Num: 56

Candidate Starts for Powerball_64:

(1, 41345), (2, 41390), (3, 41441), (25, 42023), (Start: 56 @42164 has 4 MA's), (Start: 58 @42212 has 2 MA's), (78, 42299), (134, 42458),

Gene: Renaud18_90 Start: 49824, Stop: 50195, Start Num: 55

Candidate Starts for Renaud18_90:

(47, 49800), (Start: 55 @49824 has 49 MA's), (Start: 58 @49866 has 2 MA's), (72, 49947), (125, 50073), (134, 50151),

Gene: Richie_48 Start: 30189, Stop: 30533, Start Num: 51

Candidate Starts for Richie_48:

(Start: 51 @30189 has 1 MA's), (Start: 58 @30237 has 2 MA's), (Start: 59 @30252 has 1 MA's), (84, 30318), (91, 30333), (102, 30360), (129, 30441), (134, 30498),

Gene: Rita_78 Start: 47814, Stop: 48281, Start Num: 55

Candidate Starts for Rita_78:

(42, 47766), (43, 47772), (Start: 55 @47814 has 49 MA's), (Start: 58 @47856 has 2 MA's), (101, 47973), (130, 48081), (137, 48147), (141, 48186),

Gene: Sashimi_48 Start: 31181, Stop: 31513, Start Num: 58

Candidate Starts for Sashimi_48:

(Start: 54 @31136 has 26 MA's), (Start: 58 @31181 has 2 MA's), (76, 31274), (101, 31328),

Gene: Schism_64 Start: 39526, Stop: 39828, Start Num: 55

Candidate Starts for Schism_64:

(22, 39367), (Start: 54 @39523 has 26 MA's), (Start: 55 @39526 has 49 MA's), (Start: 58 @39568 has 2 MA's), (86, 39652), (101, 39664),

Gene: Sejanus_77 Start: 56012, Stop: 56353, Start Num: 54

Candidate Starts for Sejanus_77:

(6, 55688), (9, 55706), (18, 55832), (40, 55967), (Start: 54 @56012 has 26 MA's), (Start: 58 @56054 has 2 MA's), (118, 56237),

Gene: Sekhmet_64 Start: 41883, Stop: 42236, Start Num: 55

Candidate Starts for Sekhmet_64:

(Start: 55 @41883 has 49 MA's), (Start: 58 @41925 has 2 MA's), (92, 42030), (99, 42051), (109, 42078), (134, 42201),

Gene: ShroomBoi_74 Start: 46463, Stop: 46810, Start Num: 54

Candidate Starts for ShroomBoi_74:

(30, 46370), (43, 46427), (Start: 54 @46463 has 26 MA's), (Start: 58 @46505 has 2 MA's), (118, 46688), (130, 46739), (134, 46778), (137, 46805),

Gene: Shweta_57 Start: 37933, Stop: 38274, Start Num: 54

Candidate Starts for Shweta_57:

(Start: 54 @37933 has 26 MA's), (Start: 58 @37975 has 2 MA's), (118, 38158),

Gene: SilverChicken_83 Start: 46399, Stop: 46746, Start Num: 54

Candidate Starts for SilverChicken_83:

(30, 46306), (43, 46363), (Start: 54 @46399 has 26 MA's), (Start: 58 @46441 has 2 MA's), (118, 46624), (134, 46714), (137, 46741),

Gene: Smeagol_83 Start: 50364, Stop: 50023, Start Num: 56

Candidate Starts for Smeagol_83:

(Start: 56 @50364 has 4 MA's), (Start: 58 @50322 has 2 MA's), (72, 50250), (98, 50196), (134, 50067), (136, 50061),

Gene: SoilAssassin_60 Start: 40972, Stop: 41337, Start Num: 55

Candidate Starts for SoilAssassin_60:

(Start: 55 @40972 has 49 MA's), (89, 41116), (134, 41302),

Gene: Sparky_78 Start: 53650, Stop: 54003, Start Num: 55

Candidate Starts for Sparky_78:

(50, 53641), (Start: 55 @53650 has 49 MA's), (Start: 58 @53692 has 2 MA's), (66, 53758), (74, 53776), (111, 53845), (115, 53866), (119, 53884), (130, 53932),

Gene: StevieRay_64 Start: 41228, Stop: 41569, Start Num: 55

Candidate Starts for StevieRay_64:

(Start: 54 @41225 has 26 MA's), (Start: 55 @41228 has 49 MA's), (Start: 58 @41270 has 2 MA's), (118, 41453), (130, 41504),

Gene: StressBall_59 Start: 40162, Stop: 40506, Start Num: 55

Candidate Starts for StressBall_59:

(Start: 54 @40159 has 26 MA's), (Start: 55 @40162 has 49 MA's), (Start: 58 @40204 has 2 MA's), (101, 40321), (130, 40429), (134, 40468), (139, 40498),

Gene: Stuck_72 Start: 47639, Stop: 47932, Start Num: 58

Candidate Starts for Stuck_72:

(Start: 55 @47597 has 49 MA's), (Start: 58 @47639 has 2 MA's), (75, 47720), (106, 47774), (120, 47825),

Gene: TaronosaurusRx_68 Start: 42279, Stop: 42626, Start Num: 55

Candidate Starts for TaronosaurusRx_68:

(Start: 55 @42279 has 49 MA's), (Start: 58 @42321 has 2 MA's), (82, 42417), (83, 42423), (91, 42441), (130, 42552), (134, 42591),

Gene: Thespis_61 Start: 40001, Stop: 40336, Start Num: 54

Candidate Starts for Thespis_61:

(Start: 54 @40001 has 26 MA's), (Start: 55 @40004 has 49 MA's), (Start: 58 @40046 has 2 MA's), (101, 40163), (130, 40271), (134, 40310),

Gene: ThulaThula_65 Start: 43845, Stop: 44189, Start Num: 54

Candidate Starts for ThulaThula_65:

(4, 43398), (8, 43536), (10, 43542), (11, 43554), (13, 43581), (21, 43695), (Start: 54 @43845 has 26 MA's), (Start: 55 @43848 has 49 MA's), (Start: 58 @43890 has 2 MA's), (65, 43953), (71, 43962), (75, 43977),

Gene: Vidya_58 Start: 38673, Stop: 39005, Start Num: 55

Candidate Starts for Vidya_58:

(Start: 55 @38673 has 49 MA's), (Start: 58 @38715 has 2 MA's), (101, 38832), (130, 38940),

Gene: Violac_73 Start: 46458, Stop: 46964, Start Num: 55

Candidate Starts for Violac_73:

(42, 46416), (43, 46422), (Start: 55 @46458 has 49 MA's), (Start: 58 @46500 has 2 MA's), (72, 46581), (123, 46704), (125, 46707), (130, 46746), (137, 46812), (141, 46851), (142, 46923),

Gene: Whack_69 Start: 45414, Stop: 45812, Start Num: 52

Candidate Starts for Whack_69:

(37, 45354), (Start: 52 @45414 has 1 MA's), (Start: 58 @45462 has 2 MA's), (Start: 59 @45477 has 1 MA's), (72, 45543), (73, 45546), (105, 45636), (133, 45771),

Gene: Whatsapiecost_68 Start: 41989, Stop: 42354, Start Num: 55

Candidate Starts for Whatsapiecost_68:

(30, 41896), (43, 41953), (Start: 55 @41989 has 49 MA's), (Start: 58 @42031 has 2 MA's), (72, 42115), (124, 42244), (134, 42322), (137, 42349),

Gene: Willsammy_59 Start: 40338, Stop: 40682, Start Num: 55

Candidate Starts for Willsammy_59:

(Start: 54 @40335 has 26 MA's), (Start: 55 @40338 has 49 MA's), (Start: 58 @40380 has 2 MA's), (101, 40497), (130, 40605), (134, 40644), (139, 40674),

Gene: WinkNick_65 Start: 41407, Stop: 41760, Start Num: 55

Candidate Starts for WinkNick_65:

(Start: 55 @41407 has 49 MA's), (Start: 58 @41449 has 2 MA's), (92, 41554), (99, 41575), (109, 41602), (134, 41725),

Gene: YoungHarleezy_46 Start: 29842, Stop: 30138, Start Num: 58

Candidate Starts for YoungHarleezy_46:

(Start: 51 @29794 has 1 MA's), (Start: 58 @29842 has 2 MA's), (Start: 59 @29857 has 1 MA's), (84, 29923), (91, 29938), (102, 29965), (129, 30046), (134, 30103),

Gene: Zarbodnamra_70 Start: 42931, Stop: 43299, Start Num: 55

Candidate Starts for Zarbodnamra_70:

(Start: 55 @42931 has 49 MA's), (Start: 58 @42973 has 2 MA's), (Start: 59 @42988 has 1 MA's), (79, 43072), (110, 43150), (130, 43222), (134, 43261),

Gene: Zodiariah_64 Start: 46546, Stop: 46875, Start Num: 58

Candidate Starts for Zodiariah_64:

(Start: 54 @46501 has 26 MA's), (Start: 55 @46504 has 49 MA's), (Start: 58 @46546 has 2 MA's), (88, 46663), (134, 46840), (140, 46870),