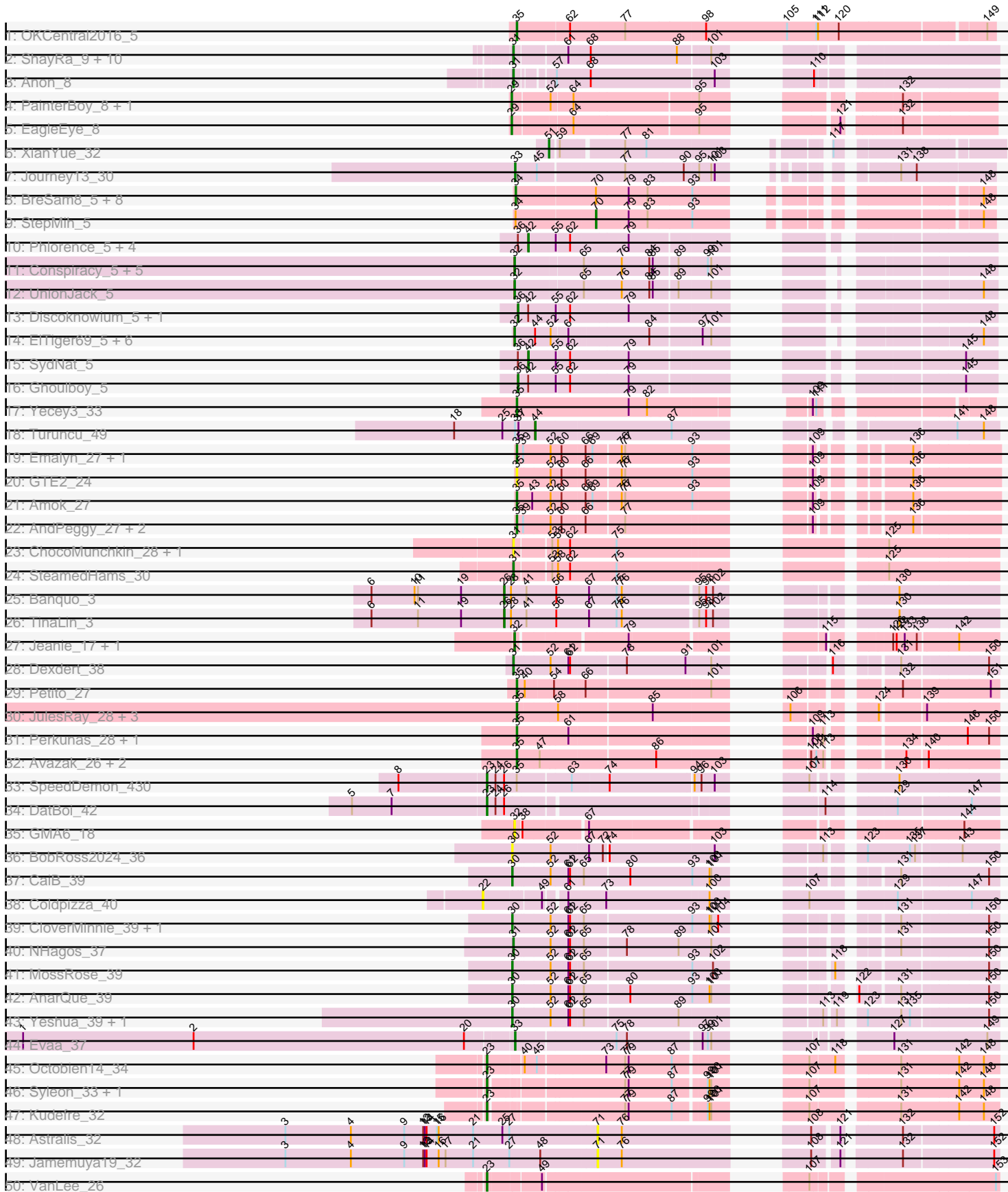
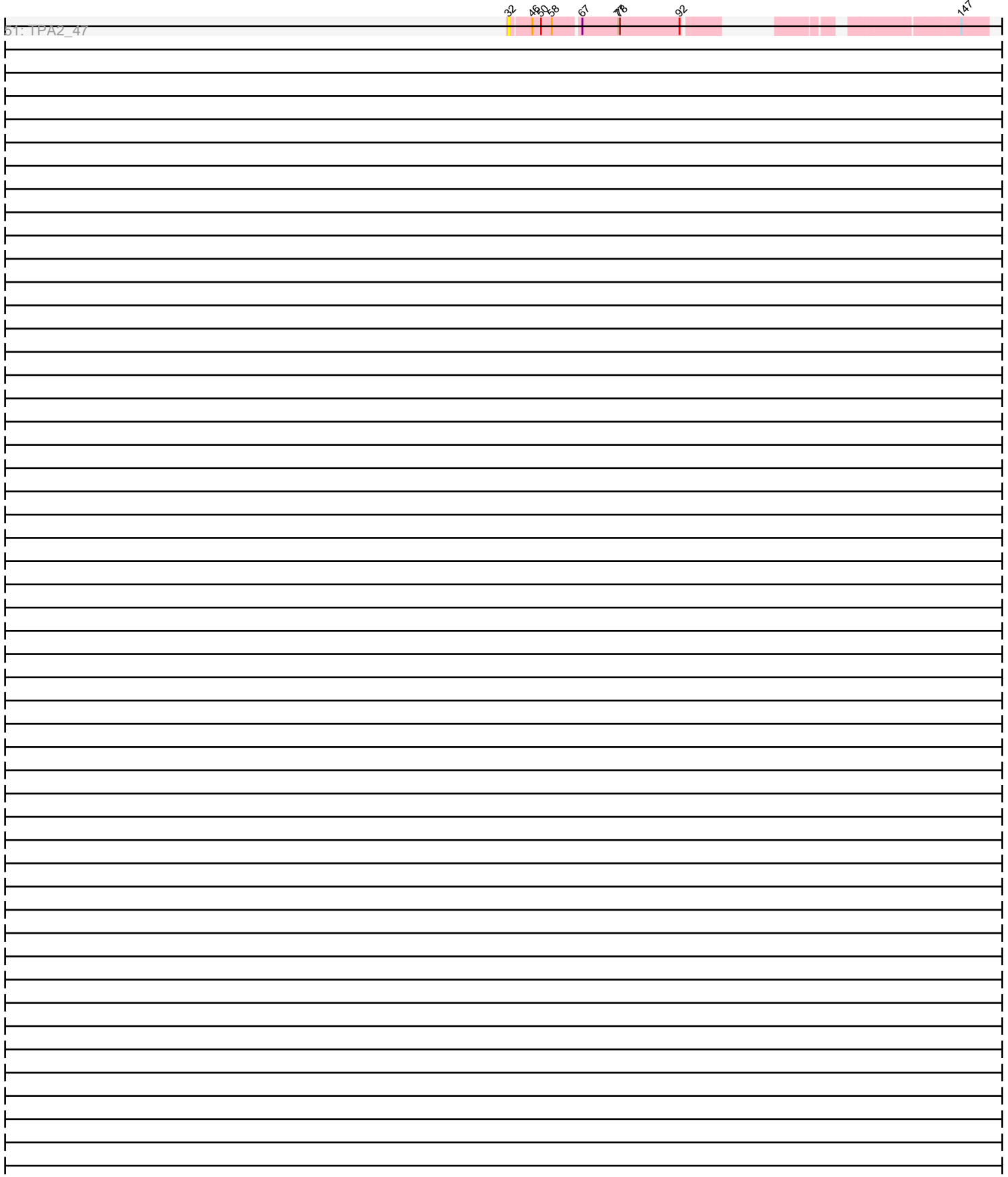


Pham 202829



Pham 202829



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 202829 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202829 has 100 members, 16 are drafts.

Phages represented in each track:

- Track 1 : OKCentral2016_5
- Track 2 : ShayRa_9, Waits_8, KatherineG_8, Warrior24_8, Switzerland_8, Rosalind_8, MinecraftSteve_9, Oofda_8, DekHockey33_8, Battleship_9, Soups_8
- Track 3 : Anon_8
- Track 4 : PainterBoy_8, Lucyedi_8
- Track 5 : EagleEye_8
- Track 6 : XianYue_32
- Track 7 : Journey13_30
- Track 8 : BreSam8_5, SoYo_5, Sabia_5, Aglet_5, Dieselweasel_5, GtownJaz_5, MadMarie_5, Mainiac_5, Wooldri_7
- Track 9 : StepMih_5
- Track 10 : Phlorence_5, Aragog_5, Zolita_4, Jovo_5, AgentM_5
- Track 11 : Conspiracy_5, Lev2_5, ForGetIt_5, Tiger_5, PickleBack_5, Archetta_5
- Track 12 : UnionJack_5
- Track 13 : Discoknowium_5, Bluefalcon_4
- Track 14 : EITiger69_5, PetterN_5, Chadwick_5, Airmid_5, Scorpia_5, Benedict_5, Jabiru_5
- Track 15 : SydNat_5
- Track 16 : Ghouboy_5
- Track 17 : Yecey3_33
- Track 18 : Turuncu_49
- Track 19 : Emalyn_27, AikoCarson_27
- Track 20 : GTE2_24
- Track 21 : Amok_27
- Track 22 : AndPeggy_27, BillDoor_30, Yarn_27
- Track 23 : ChocoMunchkin_28, CanesSauce_28
- Track 24 : SteamedHams_30
- Track 25 : Banquo_3
- Track 26 : TinaLin_3
- Track 27 : Jeanie_17, McGonagall_17
- Track 28 : Dextert_38
- Track 29 : Petite_27
- Track 30 : JulesRay_28, Dancer_28, Captrips_26, NoPickles_26
- Track 31 : Perkunas_28, Talon44_28
- Track 32 : Avazak_26, FortCran_26, Artorias_26
- Track 33 : SpeedDemon_430
- Track 34 : DatBoi_42

- Track 35 : GMA6_18
- Track 36 : BobRoss2024_36
- Track 37 : CaiB_39
- Track 38 : Coldpizza_40
- Track 39 : CloverMinnie_39, MakoManhole_39
- Track 40 : NHagos_37
- Track 41 : MossRose_39
- Track 42 : AnarQue_39
- Track 43 : Yeshua_39, Wooper_39
- Track 44 : Evaa_37
- Track 45 : Octobien14_34
- Track 46 : Syleon_33, Sephiroth_33
- Track 47 : Kundefre_32
- Track 48 : Astralis_32
- Track 49 : Jamemuya19_32
- Track 50 : VanLee_26
- Track 51 : TPA2_47

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

The start number called the most often in the published annotations is 32, it was called in 16 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Airmid_5, Archetta_5, Benedict_5, Chadwick_5, Conspiracy_5, ElTiger69_5, ForGetIt_5, GMA6_18, Jabiru_5, Jeanie_17, Lev2_5, McGonagall_17, PetterN_5, PickleBack_5, Scorpia_5, TPA2_47, Tiger_5, UnionJack_5,

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

-

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

- AgentM_5, Aglet_5, AikoCarson_27, Amok_27, AnarQue_39, AndPeggy_27, Anon_8, Aragog_5, Artorias_26, Astralis_32, Avazak_26, Banquo_3, Battleship_9, BillDoor_30, Bluefalcon_4, BobRoss2024_36, BreSam8_5, CaiB_39, CanesSauce_28, Captrips_26, ChocoMunchkin_28, CloverMinnie_39, Coldpizza_40, Dancer_28, DatBoi_42, DekHockey33_8, Dexdert_38, Dieselweasel_5, Discoknowium_5, EagleEye_8, Emalyn_27, Evaa_37, FortCran_26, GTE2_24, Ghoulboy_5, GtownJaz_5, Jamemuya19_32, Journey13_30, Jovo_5, JulesRay_28, KatherineG_8, Kundefre_32, Lucyedi_8, MadMarie_5, Mainiac_5, MakoManhole_39, MinecraftSteve_9, MossRose_39, NHagos_37, NoPickles_26, OKCentral2016_5, Octobien14_34, Oofda_8, PainterBoy_8, Perkunas_28, Petite_27, Phlorence_5, Rosalind_8, Sabia_5, Sephiroth_33, ShayRa_9, SoYo_5, Soups_8, SpeedDemon_430, SteamedHams_30, StepMih_5, Switzerland_8, SydNat_5, Syleon_33, Talon44_28, TinaLin_3, Turuncu_49, VanLee_26, Waits_8, Warrior24_8, Wooldri_7, Wooper_39, XianYue_32, Yarn_27, Yecey3_33, Yeshua_39, Zolita_4,

Summary by start number:

Start 22:

- Found in 1 of 100 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coldpizza_40 (DR),

Start 23:

- Found in 7 of 100 (7.0%) of genes in pham
- Manual Annotations of this start: 7 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DatBoi_42 (DL), Kudrefre_32 (DU1), Octobien14_34 (DU1), Sephiroth_33 (DU1), SpeedDemon_430 (DL), Syleon_33 (DU1), VanLee_26 (singleton),

Start 26:

- Found in 4 of 100 (4.0%) of genes in pham
- Manual Annotations of this start: 2 of 84
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Banquo_3 (CU1), TinaLin_3 (CU1),

Start 29:

- Found in 3 of 100 (3.0%) of genes in pham
- Manual Annotations of this start: 3 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EagleEye_8 (A16), Lucyedi_8 (A16), PainterBoy_8 (A16),

Start 30:

- Found in 8 of 100 (8.0%) of genes in pham
- Manual Annotations of this start: 6 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnarQue_39 (DR), BobRoss2024_36 (DR), CaiB_39 (DR), CloverMinnie_39 (DR), MakoManhole_39 (DR), MossRose_39 (DR), Wooper_39 (DR), Yeshua_39 (DR),

Start 31:

- Found in 17 of 100 (17.0%) of genes in pham
- Manual Annotations of this start: 13 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anon_8 (A15), Battleship_9 (A15), CanesSauce_28 (CT), ChocoMunchkin_28 (CT), DekHockey33_8 (A15), Dextert_38 (DE3), KatherineG_8 (A15), MinecraftSteve_9 (A15), NHagos_37 (DR), Oofda_8 (A15), Rosalind_8 (A15), ShayRa_9 (A15), Soups_8 (A15), SteamedHams_30 (CT), Switzerland_8 (A15), Waits_8 (A15), Warrior24_8 (A15),

Start 32:

- Found in 18 of 100 (18.0%) of genes in pham
- Manual Annotations of this start: 16 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Airmid_5 (A5), Archetta_5 (A5), Benedict_5 (A5), Chadwick_5 (A5), Conspiracy_5 (A5), ElTiger69_5 (A5), ForGetIt_5 (A5), GMA6_18 (DQ), Jabiru_5 (A5), Jeanie_17 (CW1), Lev2_5 (A5), McGonagall_17 (CW1), PetterN_5 (A5), PickleBack_5 (A5), Scorpia_5 (A5), TPA2_47 (singleton), Tiger_5 (A5), UnionJack_5 (A5),

Start 33:

- Found in 3 of 100 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 84
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Evaa_37 (DR), Journey13_30 (A2),

Start 34:

- Found in 10 of 100 (10.0%) of genes in pham
- Manual Annotations of this start: 9 of 84
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Aglet_5 (A3), BreSam8_5 (A3), Dieselweasel_5 (A3), GtownJaz_5 (A3), MadMarie_5 (A3), Mainiac_5 (A3), Sabia_5 (A3), SoYo_5 (A3), Wooldri_7 (A3),

Start 35:

- Found in 20 of 100 (20.0%) of genes in pham
- Manual Annotations of this start: 14 of 84
- Called 95.0% of time when present
- Phage (with cluster) where this start called: AikoCarson_27 (CT), Amok_27 (CT), AndPeggy_27 (CT), Artorias_26 (DJ), Avazak_26 (DJ), BillDoor_30 (CT), Captrips_26 (DJ), Dancer_28 (DJ), Emalyn_27 (CT), FortCran_26 (DJ), GTE2_24 (CT), JulesRay_28 (DJ), NoPickles_26 (DJ), OKCentral2016_5 (A10), Perkunas_28 (DJ), Petite_27 (DJ), Talon44_28 (DJ), Yarn_27 (CT), Yecey3_33 (A9),

Start 36:

- Found in 9 of 100 (9.0%) of genes in pham
- Manual Annotations of this start: 3 of 84
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bluefalcon_4 (A5), Discoknowium_5 (A5), Ghoulboy_5 (A5),

Start 42:

- Found in 9 of 100 (9.0%) of genes in pham
- Manual Annotations of this start: 6 of 84
- Called 66.7% of time when present
- Phage (with cluster) where this start called: AgentM_5 (A5), Aragog_5 (A5), Jovo_5 (A5), Phlorence_5 (A5), SydNat_5 (A5), Zolita_4 (A5),

Start 44:

- Found in 8 of 100 (8.0%) of genes in pham
- Manual Annotations of this start: 1 of 84
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Turuncu_49 (CR1),

Start 51:

- Found in 1 of 100 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 84
- Called 100.0% of time when present
- Phage (with cluster) where this start called: XianYue_32 (A2),

Start 70:

- Found in 10 of 100 (10.0%) of genes in pham

- Manual Annotations of this start: 1 of 84
- Called 10.0% of time when present
- Phage (with cluster) where this start called: StepMih_5 (A3),

Start 71:

- Found in 2 of 100 (2.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astralis_32 (DV), Jamemuya19_32 (DV),

Summary by clusters:

There are 19 clusters represented in this pham: A15, singleton, A16, DJ, A10, CU1, CR1, CW1, DE3, DL, A9, A3, A2, A5, DV, DU1, DQ, DR, CT,

Info for manual annotations of cluster A10:

- Start number 35 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A15:

- Start number 31 was manually annotated 10 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 29 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 33 was manually annotated 1 time for cluster A2.
- Start number 51 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 34 was manually annotated 9 times for cluster A3.
- Start number 70 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A5:

- Start number 32 was manually annotated 14 times for cluster A5.
- Start number 36 was manually annotated 3 times for cluster A5.
- Start number 42 was manually annotated 6 times for cluster A5.

Info for manual annotations of cluster A9:

- Start number 35 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster CR1:

- Start number 44 was manually annotated 1 time for cluster CR1.

Info for manual annotations of cluster CT:

- Start number 31 was manually annotated 1 time for cluster CT.
- Start number 35 was manually annotated 6 times for cluster CT.

Info for manual annotations of cluster CU1:

- Start number 26 was manually annotated 2 times for cluster CU1.

Info for manual annotations of cluster CW1:

- Start number 32 was manually annotated 2 times for cluster CW1.

Info for manual annotations of cluster DE3:

- Start number 31 was manually annotated 1 time for cluster DE3.

Info for manual annotations of cluster DJ:

- Start number 35 was manually annotated 6 times for cluster DJ.

Info for manual annotations of cluster DL:

- Start number 23 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DR:

- Start number 30 was manually annotated 6 times for cluster DR.
- Start number 31 was manually annotated 1 time for cluster DR.
- Start number 33 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster DU1:

- Start number 23 was manually annotated 4 times for cluster DU1.

Gene Information:

Gene: AgentM_5 Start: 3698, Stop: 4345, Start Num: 42

Candidate Starts for AgentM_5:

(Start: 36 @3680 has 3 MA's), (Start: 42 @3698 has 6 MA's), (55, 3746), (62, 3767), (79, 3863),

Gene: Aglet_5 Start: 2899, Stop: 3558, Start Num: 34

Candidate Starts for Aglet_5:

(Start: 34 @2899 has 9 MA's), (Start: 70 @3028 has 1 MA's), (79, 3082), (83, 3115), (93, 3184), (148, 3538),

Gene: AikoCarson_27 Start: 22132, Stop: 22770, Start Num: 35

Candidate Starts for AikoCarson_27:

(Start: 35 @22132 has 14 MA's), (39, 22141), (52, 22183), (60, 22201), (66, 22237), (69, 22249), (76, 22291), (77, 22297), (93, 22408), (109, 22513), (136, 22627),

Gene: Airmid_5 Start: 3407, Stop: 4048, Start Num: 32

Candidate Starts for Airmid_5:

(Start: 32 @3407 has 16 MA's), (Start: 44 @3443 has 1 MA's), (52, 3464), (61, 3491), (84, 3623), (97, 3704), (101, 3719), (148, 4025),

Gene: Amok_27 Start: 22092, Stop: 22730, Start Num: 35

Candidate Starts for Amok_27:

(Start: 35 @22092 has 14 MA's), (43, 22116), (52, 22143), (60, 22161), (66, 22197), (69, 22209), (76, 22251), (77, 22257), (93, 22368), (109, 22473), (136, 22587),

Gene: AnarQue_39 Start: 33943, Stop: 34590, Start Num: 30

Candidate Starts for AnarQue_39:

(Start: 30 @33943 has 6 MA's), (52, 34000), (61, 34030), (62, 34033), (65, 34051), (80, 34123), (93, 34225), (100, 34255), (101, 34258), (122, 34375), (131, 34435), (150, 34573),

Gene: AndPeggy_27 Start: 22538, Stop: 23176, Start Num: 35

Candidate Starts for AndPeggy_27:

(Start: 35 @22538 has 14 MA's), (39, 22547), (52, 22589), (60, 22607), (66, 22643), (77, 22703), (109, 22919), (136, 23033),

Gene: Anon_8 Start: 4936, Stop: 5598, Start Num: 31

Candidate Starts for Anon_8:

(Start: 31 @4936 has 13 MA's), (57, 4987), (68, 5041), (103, 5242), (110, 5317),

Gene: Aragog_5 Start: 3728, Stop: 4375, Start Num: 42

Candidate Starts for Aragog_5:

(Start: 36 @3710 has 3 MA's), (Start: 42 @3728 has 6 MA's), (55, 3776), (62, 3797), (79, 3893),

Gene: Archetta_5 Start: 3446, Stop: 4087, Start Num: 32

Candidate Starts for Archetta_5:

(Start: 32 @3446 has 16 MA's), (65, 3554), (76, 3614), (84, 3662), (85, 3668), (89, 3707), (99, 3752), (101, 3758),

Gene: Artorias_26 Start: 18647, Stop: 19297, Start Num: 35

Candidate Starts for Artorias_26:

(Start: 35 @18647 has 14 MA's), (47, 18683), (86, 18869), (108, 19031), (111, 19040), (113, 19049), (134, 19148), (140, 19178),

Gene: Astralis_32 Start: 27651, Stop: 28208, Start Num: 71

Candidate Starts for Astralis_32:

(3, 27111), (4, 27225), (9, 27318), (12, 27351), (13, 27354), (14, 27357), (15, 27375), (16, 27378), (21, 27438), (25, 27489), (27, 27501), (71, 27651), (76, 27693), (108, 27927), (121, 27966), (132, 28053), (152, 28200),

Gene: Avazak_26 Start: 18654, Stop: 19304, Start Num: 35

Candidate Starts for Avazak_26:

(Start: 35 @18654 has 14 MA's), (47, 18690), (86, 18876), (108, 19038), (111, 19047), (113, 19056), (134, 19155), (140, 19185),

Gene: Banquo_3 Start: 665, Stop: 1360, Start Num: 26

Candidate Starts for Banquo_3:

(6, 434), (10, 509), (11, 515), (19, 590), (Start: 26 @665 has 2 MA's), (28, 677), (41, 704), (56, 755), (67, 812), (75, 857), (76, 866), (95, 986), (98, 998), (102, 1010), (130, 1193),

Gene: Battleship_9 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for Battleship_9:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: Benedict_5 Start: 3409, Stop: 4050, Start Num: 32

Candidate Starts for Benedict_5:

(Start: 32 @3409 has 16 MA's), (Start: 44 @3445 has 1 MA's), (52, 3466), (61, 3493), (84, 3625), (97, 3706), (101, 3721), (148, 4027),

Gene: BillDoor_30 Start: 22485, Stop: 23123, Start Num: 35

Candidate Starts for BillDoor_30:

(Start: 35 @22485 has 14 MA's), (39, 22494), (52, 22536), (60, 22554), (66, 22590), (77, 22650), (109, 22866), (136, 22980),

Gene: Bluefalcon_4 Start: 3677, Stop: 4342, Start Num: 36

Candidate Starts for Bluefalcon_4:

(Start: 36 @3677 has 3 MA's), (Start: 42 @3695 has 6 MA's), (55, 3743), (62, 3764), (79, 3860),

Gene: BobRoss2024_36 Start: 32051, Stop: 32710, Start Num: 30

Candidate Starts for BobRoss2024_36:

(Start: 30 @32051 has 6 MA's), (52, 32108), (67, 32168), (72, 32189), (74, 32195), (103, 32372), (113, 32456), (123, 32498), (135, 32567), (137, 32576), (143, 32648),

Gene: BreSam8_5 Start: 2891, Stop: 3550, Start Num: 34

Candidate Starts for BreSam8_5:

(Start: 34 @2891 has 9 MA's), (Start: 70 @3020 has 1 MA's), (79, 3074), (83, 3107), (93, 3176), (148, 3530),

Gene: CaiB_39 Start: 33929, Stop: 34576, Start Num: 30

Candidate Starts for CaiB_39:

(Start: 30 @33929 has 6 MA's), (52, 33986), (61, 34016), (62, 34019), (65, 34037), (80, 34109), (93, 34211), (100, 34241), (101, 34244), (131, 34421), (150, 34559),

Gene: CanesSauce_28 Start: 22691, Stop: 23383, Start Num: 31

Candidate Starts for CanesSauce_28:

(Start: 31 @22691 has 13 MA's), (53, 22748), (58, 22757), (62, 22778), (75, 22853), (125, 23195),

Gene: Captrips_26 Start: 18675, Stop: 19322, Start Num: 35

Candidate Starts for Captrips_26:

(Start: 35 @18675 has 14 MA's), (58, 18738), (85, 18888), (106, 19026), (124, 19134), (139, 19200),

Gene: Chadwick_5 Start: 3406, Stop: 4047, Start Num: 32

Candidate Starts for Chadwick_5:

(Start: 32 @3406 has 16 MA's), (Start: 44 @3442 has 1 MA's), (52, 3463), (61, 3490), (84, 3622), (97, 3703), (101, 3718), (148, 4024),

Gene: ChocoMunchkin_28 Start: 22691, Stop: 23383, Start Num: 31

Candidate Starts for ChocoMunchkin_28:

(Start: 31 @22691 has 13 MA's), (53, 22748), (58, 22757), (62, 22778), (75, 22853), (125, 23195),

Gene: CloverMinnie_39 Start: 33869, Stop: 34516, Start Num: 30

Candidate Starts for CloverMinnie_39:

(Start: 30 @33869 has 6 MA's), (52, 33926), (61, 33956), (62, 33959), (65, 33977), (93, 34151), (100, 34181), (101, 34184), (104, 34196), (131, 34361), (150, 34499),

Gene: Coldpizza_40 Start: 36634, Stop: 37356, Start Num: 22

Candidate Starts for Coldpizza_40:

(22, 36634), (49, 36724), (61, 36754), (73, 36814), (100, 36985), (107, 37063), (129, 37189), (147, 37309),

Gene: Conspiracy_5 Start: 3447, Stop: 4088, Start Num: 32

Candidate Starts for Conspiracy_5:

(Start: 32 @3447 has 16 MA's), (65, 3555), (76, 3615), (84, 3663), (85, 3669), (89, 3708), (99, 3753), (101, 3759),

Gene: Dancer_28 Start: 18375, Stop: 19022, Start Num: 35

Candidate Starts for Dancer_28:

(Start: 35 @18375 has 14 MA's), (58, 18438), (85, 18588), (106, 18726), (124, 18834), (139, 18900),

Gene: DatBoi_42 Start: 38878, Stop: 39585, Start Num: 23

Candidate Starts for DatBoi_42:

(5, 38647), (7, 38716), (Start: 23 @38878 has 7 MA's), (24, 38893), (Start: 26 @38908 has 2 MA's), (114, 39325), (129, 39418), (147, 39538),

Gene: DekHockey33_8 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for DekHockey33_8:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: Dextert_38 Start: 33419, Stop: 34066, Start Num: 31

Candidate Starts for Dextert_38:

(Start: 31 @33419 has 13 MA's), (52, 33476), (61, 33506), (62, 33509), (78, 33593), (91, 33692), (101, 33734), (116, 33830), (131, 33911), (150, 34049),

Gene: Dieselweasel_5 Start: 2899, Stop: 3558, Start Num: 34

Candidate Starts for Dieselweasel_5:

(Start: 34 @2899 has 9 MA's), (Start: 70 @3028 has 1 MA's), (79, 3082), (83, 3115), (93, 3184), (148, 3538),

Gene: Discoknowium_5 Start: 3710, Stop: 4375, Start Num: 36

Candidate Starts for Discoknowium_5:

(Start: 36 @3710 has 3 MA's), (Start: 42 @3728 has 6 MA's), (55, 3776), (62, 3797), (79, 3893),

Gene: EagleEye_8 Start: 4875, Stop: 5543, Start Num: 29

Candidate Starts for EagleEye_8:

(Start: 29 @4875 has 3 MA's), (64, 4968), (95, 5169), (121, 5310), (132, 5391),

Gene: EITiger69_5 Start: 3407, Stop: 4048, Start Num: 32

Candidate Starts for EITiger69_5:

(Start: 32 @3407 has 16 MA's), (Start: 44 @3443 has 1 MA's), (52, 3464), (61, 3491), (84, 3623), (97, 3704), (101, 3719), (148, 4025),

Gene: Emalyn_27 Start: 22133, Stop: 22771, Start Num: 35

Candidate Starts for Emalyn_27:

(Start: 35 @22133 has 14 MA's), (39, 22142), (52, 22184), (60, 22202), (66, 22238), (69, 22250), (76, 22292), (77, 22298), (93, 22409), (109, 22514), (136, 22628),

Gene: Evaa_37 Start: 33037, Stop: 33708, Start Num: 33

Candidate Starts for Evaa_37:

(1, 32194), (2, 32491), (20, 32962), (Start: 33 @33037 has 2 MA's), (75, 33199), (78, 33217), (97, 33334), (99, 33343), (101, 33349), (127, 33529), (149, 33688),

Gene: ForGetIt_5 Start: 3473, Stop: 4114, Start Num: 32

Candidate Starts for ForGetIt_5:

(Start: 32 @3473 has 16 MA's), (65, 3581), (76, 3641), (84, 3689), (85, 3695), (89, 3734), (99, 3779), (101, 3785),

Gene: FortCran_26 Start: 18647, Stop: 19297, Start Num: 35

Candidate Starts for FortCran_26:

(Start: 35 @18647 has 14 MA's), (47, 18683), (86, 18869), (108, 19031), (111, 19040), (113, 19049), (134, 19148), (140, 19178),

Gene: GMA6_18 Start: 14860, Stop: 15507, Start Num: 32
Candidate Starts for GMA6_18:
(Start: 32 @14860 has 16 MA's), (38, 14869), (67, 14971), (144, 15448),

Gene: GTE2_24 Start: 22211, Stop: 22849, Start Num: 35
Candidate Starts for GTE2_24:
(Start: 35 @22211 has 14 MA's), (52, 22262), (60, 22280), (66, 22316), (76, 22370), (77, 22376), (93, 22487), (109, 22592), (136, 22706),

Gene: Ghoulboy_5 Start: 3679, Stop: 4344, Start Num: 36
Candidate Starts for Ghoulboy_5:
(Start: 36 @3679 has 3 MA's), (Start: 42 @3697 has 6 MA's), (55, 3745), (62, 3766), (79, 3862), (145, 4291),

Gene: GtownJaz_5 Start: 2899, Stop: 3558, Start Num: 34
Candidate Starts for GtownJaz_5:
(Start: 34 @2899 has 9 MA's), (Start: 70 @3028 has 1 MA's), (79, 3082), (83, 3115), (93, 3184), (148, 3538),

Gene: Jabiru_5 Start: 3407, Stop: 4048, Start Num: 32
Candidate Starts for Jabiru_5:
(Start: 32 @3407 has 16 MA's), (Start: 44 @3443 has 1 MA's), (52, 3464), (61, 3491), (84, 3623), (97, 3704), (101, 3719), (148, 4025),

Gene: Jamemuya19_32 Start: 27651, Stop: 28208, Start Num: 71
Candidate Starts for Jamemuya19_32:
(3, 27111), (4, 27225), (9, 27318), (12, 27351), (13, 27354), (14, 27357), (16, 27378), (17, 27390), (21, 27438), (27, 27501), (48, 27555), (71, 27651), (76, 27693), (108, 27927), (121, 27966), (132, 28053), (152, 28200),

Gene: Jeanie_17 Start: 12036, Stop: 12680, Start Num: 32
Candidate Starts for Jeanie_17:
(Start: 32 @12036 has 16 MA's), (79, 12207), (115, 12432), (126, 12507), (128, 12513), (133, 12525), (138, 12546), (142, 12612),

Gene: Journey13_30 Start: 23737, Stop: 24387, Start Num: 33
Candidate Starts for Journey13_30:
(Start: 33 @23737 has 2 MA's), (45, 23773), (77, 23914), (90, 24010), (95, 24034), (101, 24055), (103, 24061), (131, 24235), (138, 24259),

Gene: Jovo_5 Start: 3729, Stop: 4376, Start Num: 42
Candidate Starts for Jovo_5:
(Start: 36 @3711 has 3 MA's), (Start: 42 @3729 has 6 MA's), (55, 3777), (62, 3798), (79, 3894),

Gene: JulesRay_28 Start: 18669, Stop: 19316, Start Num: 35
Candidate Starts for JulesRay_28:
(Start: 35 @18669 has 14 MA's), (58, 18732), (85, 18882), (106, 19020), (124, 19128), (139, 19194),

Gene: KatherineG_8 Start: 4550, Stop: 5224, Start Num: 31
Candidate Starts for KatherineG_8:
(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: Kudrefre_32 Start: 27445, Stop: 28155, Start Num: 23

Candidate Starts for Kundefre_32:

(Start: 23 @27445 has 7 MA's), (77, 27649), (79, 27655), (87, 27730), (99, 27778), (100, 27781), (101, 27784), (107, 27859), (131, 27988), (142, 28087), (148, 28129),

Gene: Lev2_5 Start: 3446, Stop: 4087, Start Num: 32

Candidate Starts for Lev2_5:

(Start: 32 @3446 has 16 MA's), (65, 3554), (76, 3614), (84, 3662), (85, 3668), (89, 3707), (99, 3752), (101, 3758),

Gene: Lucyedi_8 Start: 4875, Stop: 5543, Start Num: 29

Candidate Starts for Lucyedi_8:

(Start: 29 @4875 has 3 MA's), (52, 4932), (64, 4968), (95, 5169), (132, 5391),

Gene: MadMarie_5 Start: 2900, Stop: 3559, Start Num: 34

Candidate Starts for MadMarie_5:

(Start: 34 @2900 has 9 MA's), (Start: 70 @3029 has 1 MA's), (79, 3083), (83, 3116), (93, 3185), (148, 3539),

Gene: Mainiac_5 Start: 2891, Stop: 3550, Start Num: 34

Candidate Starts for Mainiac_5:

(Start: 34 @2891 has 9 MA's), (Start: 70 @3020 has 1 MA's), (79, 3074), (83, 3107), (93, 3176), (148, 3530),

Gene: MakoManhole_39 Start: 33947, Stop: 34594, Start Num: 30

Candidate Starts for MakoManhole_39:

(Start: 30 @33947 has 6 MA's), (52, 34004), (61, 34034), (62, 34037), (65, 34055), (93, 34229), (100, 34259), (101, 34262), (104, 34274), (131, 34439), (150, 34577),

Gene: McGonagall_17 Start: 12036, Stop: 12680, Start Num: 32

Candidate Starts for McGonagall_17:

(Start: 32 @12036 has 16 MA's), (79, 12207), (115, 12432), (126, 12507), (128, 12513), (133, 12525), (138, 12546), (142, 12612),

Gene: MinecraftSteve_9 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for MinecraftSteve_9:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: MossRose_39 Start: 33926, Stop: 34573, Start Num: 30

Candidate Starts for MossRose_39:

(Start: 30 @33926 has 6 MA's), (52, 33983), (61, 34013), (62, 34016), (65, 34034), (93, 34208), (102, 34244), (118, 34340), (150, 34556),

Gene: NHagos_37 Start: 32544, Stop: 33191, Start Num: 31

Candidate Starts for NHagos_37:

(Start: 31 @32544 has 13 MA's), (52, 32601), (61, 32631), (62, 32634), (65, 32652), (78, 32718), (89, 32808), (101, 32859), (131, 33036), (150, 33174),

Gene: NoPickles_26 Start: 18394, Stop: 19041, Start Num: 35

Candidate Starts for NoPickles_26:

(Start: 35 @18394 has 14 MA's), (58, 18457), (85, 18607), (106, 18745), (124, 18853), (139, 18919),

Gene: OKCentral2016_5 Start: 2376, Stop: 3164, Start Num: 35

Candidate Starts for OKCentral2016_5:

(Start: 35 @2376 has 14 MA's), (62, 2463), (77, 2553), (98, 2685), (105, 2826), (111, 2877), (112, 2880), (120, 2916), (149, 3150),

Gene: Octobien14_34 Start: 28125, Stop: 28844, Start Num: 23

Candidate Starts for Octobien14_34:

(Start: 23 @28125 has 7 MA's), (40, 28179), (45, 28200), (73, 28305), (77, 28338), (79, 28344), (87, 28419), (107, 28548), (118, 28587), (131, 28677), (142, 28776), (148, 28818),

Gene: Oofda_8 Start: 4406, Stop: 5080, Start Num: 31

Candidate Starts for Oofda_8:

(Start: 31 @4406 has 13 MA's), (61, 4487), (68, 4523), (88, 4670), (101, 4718),

Gene: PainterBoy_8 Start: 4875, Stop: 5543, Start Num: 29

Candidate Starts for PainterBoy_8:

(Start: 29 @4875 has 3 MA's), (52, 4932), (64, 4968), (95, 5169), (132, 5391),

Gene: Perkunas_28 Start: 19169, Stop: 19819, Start Num: 35

Candidate Starts for Perkunas_28:

(Start: 35 @19169 has 14 MA's), (61, 19253), (109, 19556), (113, 19571), (146, 19766), (150, 19802),

Gene: Petito_27 Start: 18884, Stop: 19531, Start Num: 35

Candidate Starts for Petito_27:

(Start: 35 @18884 has 14 MA's), (40, 18896), (54, 18941), (66, 18989), (101, 19193), (132, 19376), (151, 19517),

Gene: PetterN_5 Start: 3407, Stop: 4048, Start Num: 32

Candidate Starts for PetterN_5:

(Start: 32 @3407 has 16 MA's), (Start: 44 @3443 has 1 MA's), (52, 3464), (61, 3491), (84, 3623), (97, 3704), (101, 3719), (148, 4025),

Gene: Phlorence_5 Start: 3728, Stop: 4375, Start Num: 42

Candidate Starts for Phlorence_5:

(Start: 36 @3710 has 3 MA's), (Start: 42 @3728 has 6 MA's), (55, 3776), (62, 3797), (79, 3893),

Gene: PickleBack_5 Start: 3447, Stop: 4088, Start Num: 32

Candidate Starts for PickleBack_5:

(Start: 32 @3447 has 16 MA's), (65, 3555), (76, 3615), (84, 3663), (85, 3669), (89, 3708), (99, 3753), (101, 3759),

Gene: Rosalind_8 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for Rosalind_8:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: Sabia_5 Start: 2891, Stop: 3550, Start Num: 34

Candidate Starts for Sabia_5:

(Start: 34 @2891 has 9 MA's), (Start: 70 @3020 has 1 MA's), (79, 3074), (83, 3107), (93, 3176), (148, 3530),

Gene: Scorpia_5 Start: 3408, Stop: 4049, Start Num: 32

Candidate Starts for Scorpia_5:

(Start: 32 @3408 has 16 MA's), (Start: 44 @3444 has 1 MA's), (52, 3465), (61, 3492), (84, 3624), (97, 3705), (101, 3720), (148, 4026),

Gene: Sephiroth_33 Start: 27616, Stop: 28326, Start Num: 23

Candidate Starts for Sephiroth_33:

(Start: 23 @27616 has 7 MA's), (77, 27820), (79, 27826), (87, 27901), (99, 27949), (100, 27952), (101, 27955), (107, 28030), (131, 28159), (142, 28258), (148, 28300),

Gene: ShayRa_9 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for ShayRa_9:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: SoYo_5 Start: 2809, Stop: 3468, Start Num: 34

Candidate Starts for SoYo_5:

(Start: 34 @2809 has 9 MA's), (Start: 70 @2938 has 1 MA's), (79, 2992), (83, 3025), (93, 3094), (148, 3448),

Gene: Soups_8 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for Soups_8:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: SpeedDemon_430 Start: 40514, Stop: 41227, Start Num: 23

Candidate Starts for SpeedDemon_430:

(8, 40364), (Start: 23 @40514 has 7 MA's), (24, 40529), (Start: 26 @40544 has 2 MA's), (Start: 35 @40565 has 14 MA's), (63, 40652), (74, 40709), (94, 40844), (96, 40853), (103, 40874), (107, 40943), (130, 41057),

Gene: SteamedHams_30 Start: 22667, Stop: 23359, Start Num: 31

Candidate Starts for SteamedHams_30:

(Start: 31 @22667 has 13 MA's), (53, 22724), (58, 22733), (62, 22754), (75, 22829), (125, 23171),

Gene: StepMih_5 Start: 3020, Stop: 3550, Start Num: 70

Candidate Starts for StepMih_5:

(Start: 34 @2891 has 9 MA's), (Start: 70 @3020 has 1 MA's), (79, 3074), (83, 3107), (93, 3176), (148, 3530),

Gene: Switzerland_8 Start: 4550, Stop: 5224, Start Num: 31

Candidate Starts for Switzerland_8:

(Start: 31 @4550 has 13 MA's), (61, 4631), (68, 4667), (88, 4814), (101, 4862),

Gene: SydNat_5 Start: 3697, Stop: 4344, Start Num: 42

Candidate Starts for SydNat_5:

(Start: 36 @3679 has 3 MA's), (Start: 42 @3697 has 6 MA's), (55, 3745), (62, 3766), (79, 3862), (145, 4291),

Gene: Syleon_33 Start: 27538, Stop: 28248, Start Num: 23

Candidate Starts for Syleon_33:

(Start: 23 @27538 has 7 MA's), (77, 27742), (79, 27748), (87, 27823), (99, 27871), (100, 27874), (101, 27877), (107, 27952), (131, 28081), (142, 28180), (148, 28222),

Gene: TPA2_47 Start: 36929, Stop: 37582, Start Num: 32

Candidate Starts for TPA2_47:

(Start: 32 @36929 has 16 MA's), (46, 36965), (50, 36977), (58, 36995), (67, 37040), (77, 37100), (78, 37103), (92, 37205), (147, 37535),

Gene: Talon44_28 Start: 18842, Stop: 19492, Start Num: 35

Candidate Starts for Talon44_28:

(Start: 35 @18842 has 14 MA's), (61, 18926), (109, 19229), (113, 19244), (146, 19439), (150, 19475),

Gene: Tiger_5 Start: 3446, Stop: 4087, Start Num: 32

Candidate Starts for Tiger_5:

(Start: 32 @3446 has 16 MA's), (65, 3554), (76, 3614), (84, 3662), (85, 3668), (89, 3707), (99, 3752), (101, 3758),

Gene: TinaLin_3 Start: 665, Stop: 1360, Start Num: 26

Candidate Starts for TinaLin_3:

(6, 434), (11, 515), (19, 590), (Start: 26 @665 has 2 MA's), (28, 677), (41, 704), (56, 755), (67, 812), (75, 857), (76, 866), (95, 986), (98, 998), (102, 1010), (130, 1193),

Gene: Turuncu_49 Start: 36776, Stop: 37405, Start Num: 44

Candidate Starts for Turuncu_49:

(18, 36638), (25, 36722), (Start: 33 @36743 has 2 MA's), (37, 36749), (Start: 44 @36776 has 1 MA's), (87, 37004), (141, 37334), (148, 37379),

Gene: UnionJack_5 Start: 3413, Stop: 4054, Start Num: 32

Candidate Starts for UnionJack_5:

(Start: 32 @3413 has 16 MA's), (65, 3521), (76, 3581), (84, 3629), (85, 3635), (89, 3674), (101, 3725), (148, 4031),

Gene: VanLee_26 Start: 22797, Stop: 23510, Start Num: 23

Candidate Starts for VanLee_26:

(Start: 23 @22797 has 7 MA's), (49, 22881), (107, 23223), (153, 23505),

Gene: Waits_8 Start: 4402, Stop: 5076, Start Num: 31

Candidate Starts for Waits_8:

(Start: 31 @4402 has 13 MA's), (61, 4483), (68, 4519), (88, 4666), (101, 4714),

Gene: Warrior24_8 Start: 4406, Stop: 5080, Start Num: 31

Candidate Starts for Warrior24_8:

(Start: 31 @4406 has 13 MA's), (61, 4487), (68, 4523), (88, 4670), (101, 4718),

Gene: Wooldri_7 Start: 2809, Stop: 3468, Start Num: 34

Candidate Starts for Wooldri_7:

(Start: 34 @2809 has 9 MA's), (Start: 70 @2938 has 1 MA's), (79, 2992), (83, 3025), (93, 3094), (148, 3448),

Gene: Wooper_39 Start: 33935, Stop: 34597, Start Num: 30

Candidate Starts for Wooper_39:

(Start: 30 @33935 has 6 MA's), (52, 33992), (61, 34022), (62, 34025), (65, 34043), (89, 34199), (113, 34340), (119, 34355), (123, 34385), (131, 34442), (135, 34454), (150, 34580),

Gene: XianYue_32 Start: 24396, Stop: 24998, Start Num: 51

Candidate Starts for XianYue_32:

(Start: 51 @24396 has 1 MA's), (59, 24408), (77, 24504), (81, 24540), (117, 24747),

Gene: Yarn_27 Start: 22532, Stop: 23170, Start Num: 35

Candidate Starts for Yarn_27:

(Start: 35 @22532 has 14 MA's), (39, 22541), (52, 22583), (60, 22601), (66, 22637), (77, 22697), (109, 22913), (136, 23027),

Gene: Yecey3_33 Start: 24132, Stop: 24764, Start Num: 35

Candidate Starts for Yecey3_33:

(Start: 35 @24132 has 14 MA's), (79, 24318), (82, 24348), (109, 24519), (111, 24525),

Gene: Yeshua_39 Start: 33912, Stop: 34574, Start Num: 30

Candidate Starts for Yeshua_39:

(Start: 30 @33912 has 6 MA's), (52, 33969), (61, 33999), (62, 34002), (65, 34020), (89, 34176), (113, 34317), (119, 34332), (123, 34362), (131, 34419), (135, 34431), (150, 34557),

Gene: Zolita_4 Start: 3697, Stop: 4401, Start Num: 42

Candidate Starts for Zolita_4:

(Start: 36 @3679 has 3 MA's), (Start: 42 @3697 has 6 MA's), (55, 3745), (62, 3766), (79, 3862),