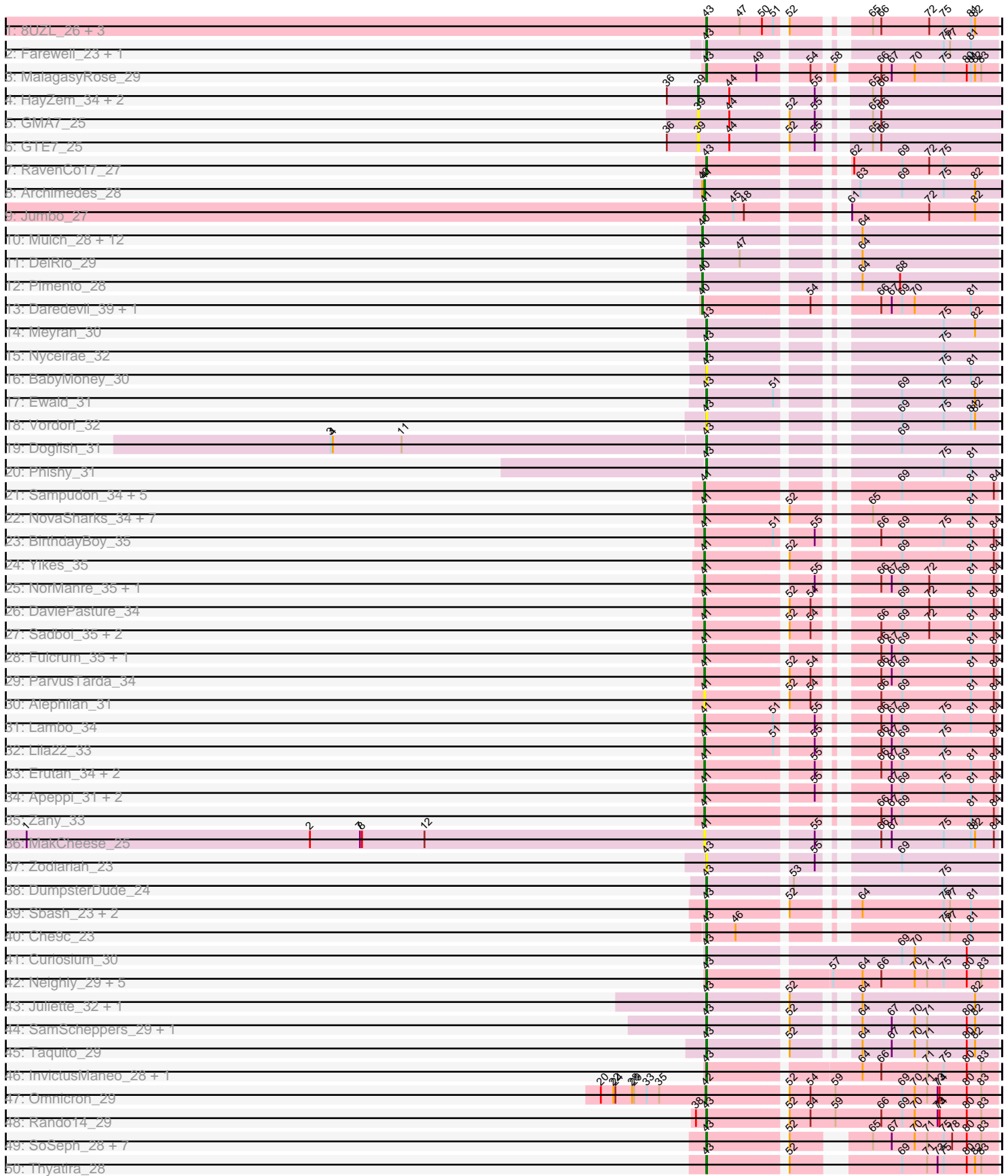
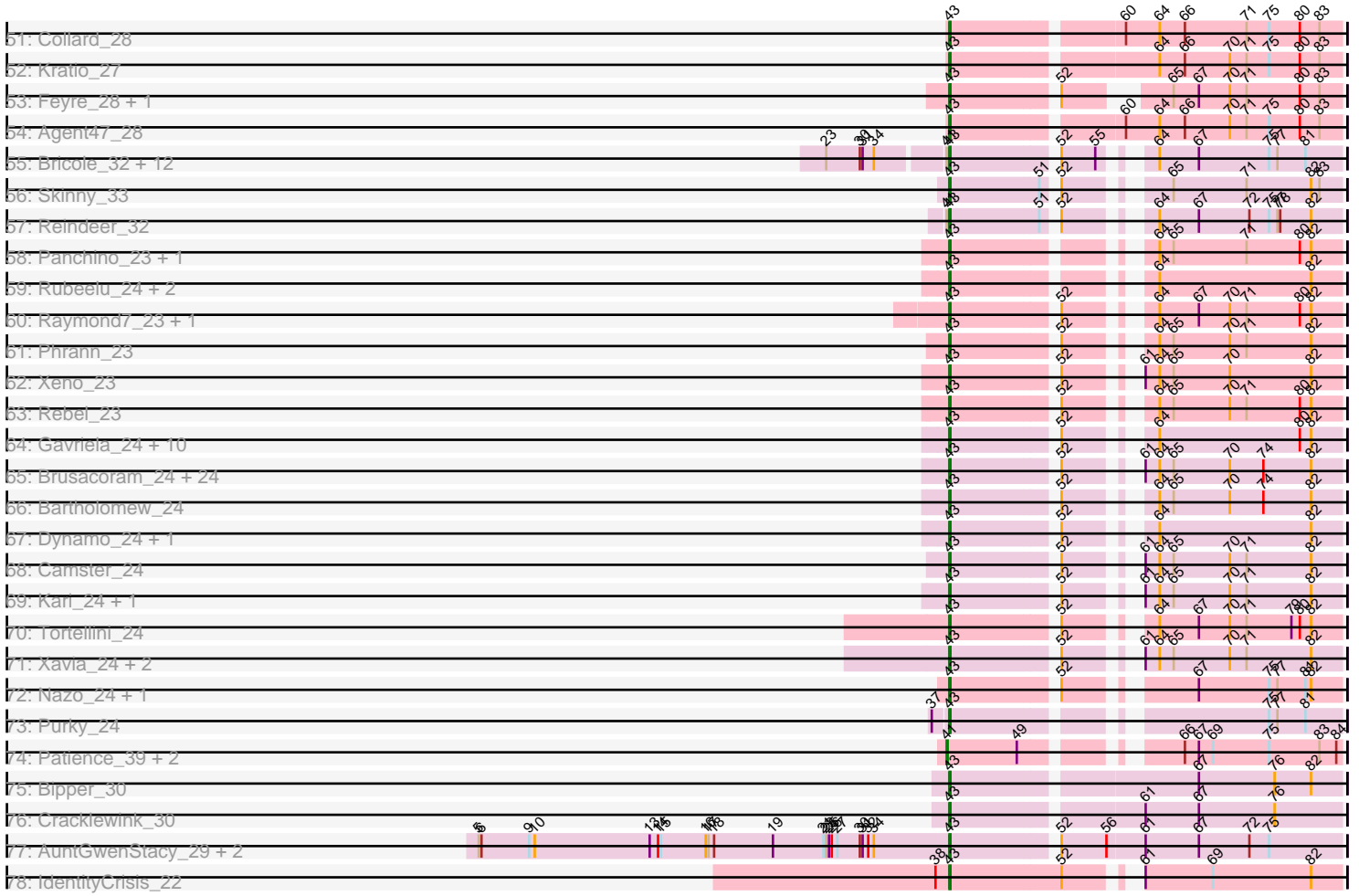


Pham 202697



Pham 202697



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 202697 Report

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

Pham number 202697 has 194 members, 26 are drafts.

Phages represented in each track:

- Track 1 : 8UZL_26, Muddy_26, Maco6_24, FF47_26
- Track 2 : Farewell_23, Sparky_23
- Track 3 : MalagasyRose_29
- Track 4 : HayZem_34, Amore2_35, Austin_35
- Track 5 : GMA7_25
- Track 6 : GTE7_25
- Track 7 : RavenCo17_27
- Track 8 : Archimedes_28
- Track 9 : Jumbo_27
- Track 10 : Mulch_28, Francois_28, Parada_28, Chop_28, Nadeem_28, NancyRae_28, WheatThin_28, BetterKatz_28, Ayotoya_28, Brylie_28, GrandSlam_28, Bock_28, Hamood_28
- Track 11 : DelRio_29
- Track 12 : Pimento_28
- Track 13 : Daredevil_39, Towmatter_39
- Track 14 : Meyran_30
- Track 15 : Nyceirae_32
- Track 16 : BabyMoney_30
- Track 17 : Ewald_31
- Track 18 : Vordorf_32
- Track 19 : Dogfish_31
- Track 20 : Phishy_31
- Track 21 : Sampudon_34, DoobyDoo_33, MoiGyank_36, Gibbin_35, Mima20_35, Jalebi_33
- Track 22 : NovaSharks_34, Astralis_34, Avian_33, Rumi_34, Alyssamiracle_35, Jamemuya19_34, RazorC_33, Genamy16_35
- Track 23 : BirthdayBoy_35
- Track 24 : Yikes_35
- Track 25 : NorManre_35, Patos_35
- Track 26 : DaviePasture_34
- Track 27 : Sadboi_35, OtterstedtS21_34, GretelLyn_34
- Track 28 : Fulcrum_35, GOATification_35
- Track 29 : ParvusTarda_34
- Track 30 : Alephilan_31
- Track 31 : Lambo_34
- Track 32 : Lila22_33
- Track 33 : Erutan_34, Ranch_34, Wojtek_33

- Track 34 : Apeppi_31, Tillicus_34, LuckyLeo_33
- Track 35 : Zany_33
- Track 36 : MakCheese_25
- Track 37 : Zodiariah_23
- Track 38 : DumpsterDude_24
- Track 39 : Sbash_23, Phayonce_24, ThulaThula_24
- Track 40 : Che9c_23
- Track 41 : Curiosium_30
- Track 42 : Neighly_29, Larva_29, Psycho_29, Dadosky_29, AlleyCat_29, Edugator_28
- Track 43 : Juliette_32, Ruthiejr_31
- Track 44 : SamScheppers_29, Eponine_31
- Track 45 : Taquito_29
- Track 46 : InvictusManeo_28, ViviJ_27
- Track 47 : Omnicron_29
- Track 48 : Rando14_29
- Track 49 : SoSeph_28, Paola_28, Guillsminger_28, OkiRoe_28, Waterfoul_28, Miryou_28, Leston_28, Heftyboy_28
- Track 50 : Thyatira_28
- Track 51 : Collard_28
- Track 52 : Kratio_27
- Track 53 : Feyre_28, Gengar_28
- Track 54 : Agent47_28
- Track 55 : Bricole_32, Dulcita_33, Izel_31, Auspice_32, TyDawg_32, Glaske16_33, IPhane7_32, Bongo_32, SlimJimmy_31, Diminimus_33, FreakyGoo_32, PegLeg_32, LilhomieP_31
- Track 56 : Skinny_33
- Track 57 : Reindeer_32
- Track 58 : Panchino_23, SkinnyPete_23
- Track 59 : Rubeelu_24, Kevin1_24, Butters_24
- Track 60 : Raymond7_23, MichelleMyBell_24
- Track 61 : Phrann_23
- Track 62 : Xeno_23
- Track 63 : Rebel_23
- Track 64 : Gavriela_24, StressBall_24, Glaske_24, KilKor_24, Phalm_24, Andies_23, Willsammy_24, Shweta_23, Megiddo_24, CactusJack_24, Scitech_23
- Track 65 : Brusacoram_24, Sonah_24, Polkaroo_24, HUHilltop_24, Langerak_24, Mangethe_24, StevieRay_24, Majeke_24, Babsiella_24, Bunnies_24, Vidya_24, FirstPlacePfu_24, Jebeks_24, Venti_24, Donovan_24, Thespis_24, Malithi_24, Zilizebeth_24, HC_24, Arib1_24, Phegasus_24, Juniormint_24, Fishburne_24, Ksquared_24, Necropolis_24
- Track 66 : Bartholomew_24
- Track 67 : Dynamo_24, Phineas_24
- Track 68 : Camster_24
- Track 69 : Kari_24, Techage_24
- Track 70 : Tortellini_24
- Track 71 : Xavia_24, Atcoo_24, Jung_24
- Track 72 : Nazo_24, BigNuz_24
- Track 73 : Purky_24
- Track 74 : Patience_39, Labelle_38, Madrug_37
- Track 75 : Bipper_30
- Track 76 : Cracklewink_30
- Track 77 : AuntGwenStacy_29, Typha_29, Hilltopfarm_29

- Track 78 : IdentityCrisis_22

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

The start number called the most often in the published annotations is 43, it was called in 115 of the 168 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 8UZL_26, Agent47_28, AlleyCat_29, Andies_23, Arib1_24, Atcoo_24, AuntGwenStacy_29, Auspice_32, Babsiella_24, BabyMoney_30, Bartholomew_24, BigNuz_24, Bipper_30, Bongo_32, Bricole_32, Brusacoram_24, Bunnies_24, Butters_24, CactusJack_24, Camster_24, Che9c_23, Collard_28, Cracklewink_30, Curiosium_30, Dadosky_29, Diminimus_33, Dogfish_31, Donovan_24, Dulcita_33, DumpsterDude_24, Dynamo_24, Edugator_28, Eponine_31, Ewald_31, FF47_26, Farewell_23, Feyre_28, FirstPlacePfu_24, Fishburne_24, FreakyGoo_32, Gavriela_24, Gengar_28, Glaske16_33, Glaske_24, Guillsminger_28, HC_24, HUHilltop_24, Heftyboy_28, Hilltopfarm_29, IPhane7_32, IdentityCrisis_22, InvictusManeo_28, Izel_31, Jebeks_24, Juliette_32, Jung_24, Juniormint_24, Kari_24, Kevin1_24, KilKor_24, Kratio_27, Ksquared_24, Langerak_24, Larva_29, Leston_28, LilhomieP_31, Maco6_24, Majeke_24, MalagasyRose_29, Malithi_24, Mangethe_24, Megiddo_24, Meyran_30, MichelleMyBell_24, Miryou_28, Muddy_26, Nazo_24, Necropolis_24, Neighly_29, Nyceirae_32, OkiRoe_28, Panchino_23, Paola_28, PegLeg_32, Phalm_24, Phayonce_24, Phegasus_24, Phineas_24, Phishy_31, Phrann_23, Polkaroo_24, Psycho_29, Purky_24, Rando14_29, RavenCo17_27, Raymond7_23, Rebel_23, Reindeer_32, Rubeelu_24, Ruthiejr_31, SamScheppers_29, Sbash_23, Scitech_23, Shweta_23, SkinnyPete_23, Skinny_33, SlimJimmy_31, SoSeph_28, Sonah_24, Sparky_23, StevieRay_24, StressBall_24, Taquito_29, Techage_24, Thespis_24, ThulaThula_24, Thyatira_28, Tortellini_24, TyDawg_32, Typha_29, Venti_24, Vidya_24, ViviJ_27, Vordorf_32, Waterfoul_28, Willsammy_24, Xavia_24, Xeno_23, Zilizebeth_24, Zodiariah_23,

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

-

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

- Alephilan_31, Alyssamiracle_35, Amore2_35, Apeppi_31, Archimedes_28, Astralis_34, Austin_35, Avian_33, Ayotoya_28, BetterKatz_28, BirthdayBoy_35, Bock_28, Brylie_28, Chop_28, Daredevil_39, DaviePasture_34, DelRio_29, DoobyDoo_33, Erutan_34, Francois_28, Fulcrum_35, GMA7_25, GOATification_35, GTE7_25, Genamy16_35, Gibbin_35, GrandSlam_28, GretelLyn_34, Hamood_28, HayZem_34, Jalebi_33, Jamemuya19_34, Jumbo_27, Labelle_38, Lambo_34, Lila22_33, LuckyLeo_33, Madrugua_37, MakCheese_25, Mima20_35, MoiGyank_36, Mulch_28, Nadeem_28, NancyRae_28, NorManre_35, NovaSharks_34, Omnicron_29, OtterstedtS21_34, Parada_28, ParvusTarda_34, Patience_39, Patos_35, Pimento_28, Ranch_34, RazorC_33, Rumi_34, Sadboi_35, Sampudon_34, Tillicus_34, Towmatter_39, WheatThin_28, Wojtek_33, Yikes_35, Zany_33,

Summary by start number:

Start 39:

- Found in 5 of 194 (2.6%) of genes in pham
- Manual Annotations of this start: 3 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amore2_35 (CS1), Austin_35 (CS1), GMA7_25 (CS1), GTE7_25 (CS1), HayZem_34 (CS1),

Start 40:

- Found in 18 of 194 (9.3%) of genes in pham
- Manual Annotations of this start: 16 of 168
- Called 94.4% of time when present
- Phage (with cluster) where this start called: Ayotoya_28 (DI), BetterKatz_28 (DI), Bock_28 (DI), Brylie_28 (DI), Chop_28 (DI), Daredevil_39 (DL), DelRio_29 (DI), Francois_28 (DI), GrandSlam_28 (DI), Hamood_28 (DI), Mulch_28 (DI), Nadeem_28 (DI), NancyRae_28 (DI), Parada_28 (DI), Pimento_28 (DI), Towmatter_39 (DL), WheatThin_28 (DI),

Start 41:

- Found in 55 of 194 (28.4%) of genes in pham
- Manual Annotations of this start: 33 of 168
- Called 74.5% of time when present
- Phage (with cluster) where this start called: Alephlan_31 (DV), Alyssamiracle_35 (DV), Apeppi_31 (DV), Archimedes_28 (DA), Astralis_34 (DV), Avian_33 (DV), BirthdayBoy_35 (DV), DaviePasture_34 (DV), DoobyDoo_33 (DV), Erutan_34 (DV), Fulcrum_35 (DV), GOATification_35 (DV), Genamy16_35 (DV), Gibbin_35 (DV), Gretellyn_34 (DV), Jalebi_33 (DV), Jamemuya19_34 (DV), Jumbo_27 (DF3), Labelle_38 (U), Lambo_34 (DV), Lila22_33 (DV), LuckyLeo_33 (DV), Madruga_37 (U), MakCheese_25 (DW), Mima20_35 (DV), MoiGyank_36 (DV), NorManre_35 (DV), NovaSharks_34 (DV), OtterstedtS21_34 (DV), ParvusTarda_34 (DV), Patience_39 (U), Patos_35 (DV), Ranch_34 (DV), RazorC_33 (DV), Rumi_34 (DV), Sadboi_35 (DV), Sampudon_34 (DV), Tillicus_34 (DV), Wojtek_33 (DV), Yikes_35 (DV), Zany_33 (DV),

Start 42:

- Found in 1 of 194 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Omnicron_29 (K5),

Start 43:

- Found in 130 of 194 (67.0%) of genes in pham
- Manual Annotations of this start: 115 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 8UZL_26 (AB), Agent47_28 (K5), AlleyCat_29 (K5), Andies_23 (N), Arib1_24 (P1), Atcoo_24 (P1), AuntGwenStacy_29 (Y), Auspice_32 (M1), Babsiella_24 (I1), BabyMoney_30 (DT), Bartholomew_24 (P1), BigNuz_24 (P4), Bipper_30 (Y), Bongo_32 (M1), Bricole_32 (M1), Brusacorram_24 (P1), Bunnies_24 (P1), Butters_24 (N), CactusJack_24 (P1), Camster_24 (P1), Che9c_23 (I2), Collard_28 (K5), Cracklewink_30 (Y), Curiosium_30 (K1), Dadosky_29 (K5), Diminimus_33 (M1), Dogfish_31 (DT), Donovan_24 (P1), Dulcita_33 (M1), DumpsterDude_24 (DW), Dynamo_24 (P1), Edugator_28 (K5), Eponine_31 (K4), Ewald_31 (DT), FF47_26 (AB), Farewell_23 (AF), Feyre_28 (K5), FirstPlacePfu_24 (P1), Fishburne_24 (P1), FreakyGoo_32 (M1), Gavriela_24 (P1),

Gengar_28 (K5), Glaske16_33 (M1), Glaske_24 (P1), Guillsminger_28 (K5), HC_24 (I1), HUHilltop_24 (P1), Heftyboy_28 (K5), Hilltopfarm_29 (Y), IPhone7_32 (M1), IdentityCrisis_22 (singleton), InvictusManeo_28 (K5), Izel_31 (M1), Jebeks_24 (P1), Juliette_32 (K4), Jung_24 (P1), Juniormint_24 (P1), Kari_24 (P1), Kevin1_24 (N), KilKor_24 (P1), Kratio_27 (K5), Ksquared_24 (P1), Langerak_24 (P1), Larva_29 (K5), Leston_28 (K5), LilhomieP_31 (M1), Maco6_24 (AB), Majeke_24 (P1), MalagasyRose_29 (AG), Malithi_24 (P1), Mangethe_24 (P1), Megiddo_24 (P1), Meyran_30 (DT), MichelleMyBell_24 (N), Miryou_28 (K5), Muddy_26 (AB), Nazo_24 (P4), Necropolis_24 (P1), Neighly_29 (K3), Nyceirae_32 (DT), OkiRoe_28 (K5), Panchino_23 (N), Paola_28 (K5), PegLeg_32 (M1), Phalm_24 (P1), Phayonce_24 (P5), Phegasus_24 (P1), Phineas_24 (P1), Phishy_31 (DT), Phrann_23 (N), Polkaroo_24 (P1), Psycho_29 (K5), Purky_24 (P6), Rando14_29 (K5), RavenCo17_27 (CZ8), Raymond7_23 (N), Rebel_23 (N), Reindeer_32 (M1), Rubeelu_24 (N), Ruthiejr_31 (K4), SamScheppers_29 (K4), Sbash_23 (I2), Scitech_23 (N), Shweta_23 (N), SkinnyPete_23 (N), Skinny_33 (M1), SlimJimmy_31 (M1), SoSeph_28 (K5), Sonah_24 (P1), Sparky_23 (AF), StevieRay_24 (P1), StressBall_24 (P1), Taquito_29 (K4), Techage_24 (P1), Thespis_24 (P1), ThulaThula_24 (P5), Thyatira_28 (K5), Tortellini_24 (P2), TyDawg_32 (M1), Typha_29 (Y), Venti_24 (P1), Vidya_24 (P1), ViviJ_27 (K5), Vordorf_32 (DT), Waterfoul_28 (K5), Willsammy_24 (P1), Xavia_24 (P3), Xen0_23 (N), Zilizebeth_24 (P1), Zodiariah_23 (DW),

Summary by clusters:

There are 29 clusters represented in this pham: DL, DI, CZ8, DA, K3, K1, AB, M1, K5, K4, DV, DW, DT, AG, I1, I2, DF3, CS1, P5, P2, P3, P1, P6, P4, AF, N, U, Y, singleton,

Info for manual annotations of cluster AB:

- Start number 43 was manually annotated 2 times for cluster AB.

Info for manual annotations of cluster AF:

- Start number 43 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster AG:

- Start number 43 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster CS1:

- Start number 39 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CZ8:

- Start number 43 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DA:

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

Info for manual annotations of cluster DF3:

- Start number 41 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DI:

- Start number 40 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DL:

- Start number 40 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster DT:

- Start number 43 was manually annotated 5 times for cluster DT.

Info for manual annotations of cluster DV:

- Start number 41 was manually annotated 28 times for cluster DV.

Info for manual annotations of cluster DW:

- Start number 43 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster I1:

- Start number 43 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 43 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster K1:

- Start number 43 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K4:

- Start number 43 was manually annotated 5 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 42 was manually annotated 1 time for cluster K5.
- Start number 43 was manually annotated 21 times for cluster K5.

Info for manual annotations of cluster M1:

- Start number 43 was manually annotated 13 times for cluster M1.

Info for manual annotations of cluster N:

- Start number 43 was manually annotated 12 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 43 was manually annotated 35 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 43 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 43 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 43 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 43 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:

- Start number 43 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster U:

- Start number 41 was manually annotated 3 times for cluster U.

Info for manual annotations of cluster Y:

•Start number 43 was manually annotated 4 times for cluster Y.

Gene Information:

Gene: 8UZL_26 Start: 22762, Stop: 23124, Start Num: 43

Candidate Starts for 8UZL_26:

(Start: 43 @22762 has 115 MA's), (47, 22810), (50, 22840), (51, 22855), (52, 22864), (65, 22945), (66, 22957), (72, 23026), (75, 23047), (81, 23086), (82, 23092),

Gene: Agent47_28 Start: 25170, Stop: 25568, Start Num: 43

Candidate Starts for Agent47_28:

(Start: 43 @25170 has 115 MA's), (60, 25338), (64, 25374), (66, 25401), (70, 25449), (71, 25467), (75, 25491), (80, 25524), (83, 25545),

Gene: Alephilan_31 Start: 29782, Stop: 30147, Start Num: 41

Candidate Starts for Alephilan_31:

(Start: 41 @29782 has 33 MA's), (52, 29887), (54, 29917), (66, 29980), (69, 30010), (81, 30109), (84, 30142),

Gene: AlleyCat_29 Start: 25101, Stop: 25499, Start Num: 43

Candidate Starts for AlleyCat_29:

(Start: 43 @25101 has 115 MA's), (57, 25263), (64, 25305), (66, 25332), (70, 25380), (71, 25398), (75, 25422), (80, 25455), (83, 25476),

Gene: Alyssamiracle_35 Start: 28883, Stop: 29248, Start Num: 41

Candidate Starts for Alyssamiracle_35:

(Start: 41 @28883 has 33 MA's), (52, 28988), (65, 29069), (81, 29210),

Gene: Amore2_35 Start: 37752, Stop: 38129, Start Num: 39

Candidate Starts for Amore2_35:

(36, 37707), (Start: 39 @37752 has 3 MA's), (44, 37797), (55, 37902), (65, 37947), (66, 37959),

Gene: Andies_23 Start: 21409, Stop: 21771, Start Num: 43

Candidate Starts for Andies_23:

(Start: 43 @21409 has 115 MA's), (52, 21511), (64, 21577), (80, 21727), (82, 21739),

Gene: Apeppi_31 Start: 29925, Stop: 30290, Start Num: 41

Candidate Starts for Apeppi_31:

(Start: 41 @29925 has 33 MA's), (55, 30066), (67, 30138), (69, 30153), (75, 30213), (81, 30252), (84, 30285),

Gene: Archimedes_28 Start: 24648, Stop: 25019, Start Num: 41

Candidate Starts for Archimedes_28:

(Start: 40 @24645 has 16 MA's), (Start: 41 @24648 has 33 MA's), (63, 24816), (69, 24876), (75, 24936), (82, 24981),

Gene: Arib1_24 Start: 22523, Stop: 22885, Start Num: 43

Candidate Starts for Arib1_24:

(Start: 43 @22523 has 115 MA's), (52, 22625), (61, 22676), (64, 22691), (65, 22706), (70, 22766), (74, 22802), (82, 22853),

Gene: Astralis_34 Start: 28473, Stop: 28838, Start Num: 41

Candidate Starts for Astralis_34:

(Start: 41 @28473 has 33 MA's), (52, 28578), (65, 28659), (81, 28800),

Gene: Atcoo_24 Start: 23011, Stop: 23373, Start Num: 43

Candidate Starts for Atcoo_24:

(Start: 43 @23011 has 115 MA's), (52, 23113), (61, 23164), (64, 23179), (65, 23194), (70, 23254), (71, 23272), (82, 23341),

Gene: AuntGwenStacy_29 Start: 27112, Stop: 27510, Start Num: 43

Candidate Starts for AuntGwenStacy_29:

(5, 26608), (6, 26611), (9, 26662), (10, 26668), (13, 26791), (14, 26800), (15, 26803), (16, 26851), (17, 26854), (18, 26860), (19, 26923), (21, 26977), (23, 26980), (25, 26983), (26, 26986), (27, 26992), (30, 27016), (31, 27019), (32, 27025), (34, 27031), (Start: 43 @27112 has 115 MA's), (52, 27214), (56, 27262), (61, 27301), (67, 27358), (72, 27412), (75, 27433),

Gene: Auspice_32 Start: 28085, Stop: 28447, Start Num: 43

Candidate Starts for Auspice_32:

(23, 27965), (30, 28001), (31, 28004), (34, 28016), (Start: 41 @28082 has 33 MA's), (Start: 43 @28085 has 115 MA's), (52, 28187), (55, 28223), (64, 28253), (67, 28295), (75, 28370), (77, 28379), (81, 28409),

Gene: Austin_35 Start: 37752, Stop: 38129, Start Num: 39

Candidate Starts for Austin_35:

(36, 37707), (Start: 39 @37752 has 3 MA's), (44, 37797), (55, 37902), (65, 37947), (66, 37959),

Gene: Avian_33 Start: 28865, Stop: 29230, Start Num: 41

Candidate Starts for Avian_33:

(Start: 41 @28865 has 33 MA's), (52, 28970), (65, 29051), (81, 29192),

Gene: Ayotoya_28 Start: 25190, Stop: 25558, Start Num: 40

Candidate Starts for Ayotoya_28:

(Start: 40 @25190 has 16 MA's), (64, 25364),

Gene: Babsiella_24 Start: 22531, Stop: 22893, Start Num: 43

Candidate Starts for Babsiella_24:

(Start: 43 @22531 has 115 MA's), (52, 22633), (61, 22684), (64, 22699), (65, 22714), (70, 22774), (74, 22810), (82, 22861),

Gene: BabyMoney_30 Start: 27055, Stop: 27417, Start Num: 43

Candidate Starts for BabyMoney_30:

(Start: 43 @27055 has 115 MA's), (75, 27340), (81, 27379),

Gene: Bartholomew_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Bartholomew_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: BetterKatz_28 Start: 24663, Stop: 25031, Start Num: 40

Candidate Starts for BetterKatz_28:

(Start: 40 @24663 has 16 MA's), (64, 24837),

Gene: BigNuz_24 Start: 23148, Stop: 23510, Start Num: 43

Candidate Starts for BigNuz_24:

(Start: 43 @23148 has 115 MA's), (52, 23250), (67, 23358), (75, 23433), (77, 23442), (81, 23472), (82, 23478),

Gene: Bipper_30 Start: 27679, Stop: 28077, Start Num: 43

Candidate Starts for Bipper_30:

(Start: 43 @27679 has 115 MA's), (67, 27925), (76, 28006), (82, 28045),

Gene: BirthdayBoy_35 Start: 30606, Stop: 30971, Start Num: 41

Candidate Starts for BirthdayBoy_35:

(Start: 41 @30606 has 33 MA's), (51, 30702), (55, 30747), (66, 30804), (69, 30834), (75, 30894), (81, 30933), (84, 30966),

Gene: Bock_28 Start: 24413, Stop: 24781, Start Num: 40

Candidate Starts for Bock_28:

(Start: 40 @24413 has 16 MA's), (64, 24587),

Gene: Bongo_32 Start: 28085, Stop: 28447, Start Num: 43

Candidate Starts for Bongo_32:

(23, 27965), (30, 28001), (31, 28004), (34, 28016), (Start: 41 @28082 has 33 MA's), (Start: 43 @28085 has 115 MA's), (52, 28187), (55, 28223), (64, 28253), (67, 28295), (75, 28370), (77, 28379), (81, 28409),

Gene: Bricole_32 Start: 28071, Stop: 28433, Start Num: 43

Candidate Starts for Bricole_32:

(23, 27951), (30, 27987), (31, 27990), (34, 28002), (Start: 41 @28068 has 33 MA's), (Start: 43 @28071 has 115 MA's), (52, 28173), (55, 28209), (64, 28239), (67, 28281), (75, 28356), (77, 28365), (81, 28395),

Gene: Brusacoram_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Brusacoram_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Brylie_28 Start: 24404, Stop: 24772, Start Num: 40

Candidate Starts for Brylie_28:

(Start: 40 @24404 has 16 MA's), (64, 24578),

Gene: Bunnies_24 Start: 22539, Stop: 22901, Start Num: 43

Candidate Starts for Bunnies_24:

(Start: 43 @22539 has 115 MA's), (52, 22641), (61, 22692), (64, 22707), (65, 22722), (70, 22782), (74, 22818), (82, 22869),

Gene: Butters_24 Start: 21222, Stop: 21584, Start Num: 43

Candidate Starts for Butters_24:

(Start: 43 @21222 has 115 MA's), (64, 21390), (82, 21552),

Gene: CactusJack_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for CactusJack_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Camster_24 Start: 22552, Stop: 22914, Start Num: 43

Candidate Starts for Camster_24:

(Start: 43 @22552 has 115 MA's), (52, 22654), (61, 22705), (64, 22720), (65, 22735), (70, 22795), (71, 22813), (82, 22882),

Gene: Che9c_23 Start: 22654, Stop: 23016, Start Num: 43

Candidate Starts for Che9c_23:

(Start: 43 @22654 has 115 MA's), (46, 22696), (75, 22939), (77, 22948), (81, 22978),

Gene: Chop_28 Start: 24938, Stop: 25306, Start Num: 40

Candidate Starts for Chop_28:

(Start: 40 @24938 has 16 MA's), (64, 25112),

Gene: Collard_28 Start: 25131, Stop: 25529, Start Num: 43

Candidate Starts for Collard_28:

(Start: 43 @25131 has 115 MA's), (60, 25299), (64, 25335), (66, 25362), (71, 25428), (75, 25452), (80, 25485), (83, 25506),

Gene: Cracklewink_30 Start: 27679, Stop: 28077, Start Num: 43

Candidate Starts for Cracklewink_30:

(Start: 43 @27679 has 115 MA's), (61, 27868), (67, 27925), (76, 28006),

Gene: Curiosium_30 Start: 24179, Stop: 24580, Start Num: 43

Candidate Starts for Curiosium_30:

(Start: 43 @24179 has 115 MA's), (69, 24443), (70, 24461), (80, 24536),

Gene: Dadosky_29 Start: 25102, Stop: 25500, Start Num: 43

Candidate Starts for Dadosky_29:

(Start: 43 @25102 has 115 MA's), (57, 25264), (64, 25306), (66, 25333), (70, 25381), (71, 25399), (75, 25423), (80, 25456), (83, 25477),

Gene: Daredevil_39 Start: 35949, Stop: 36314, Start Num: 40

Candidate Starts for Daredevil_39:

(Start: 40 @35949 has 16 MA's), (54, 36084), (66, 36147), (67, 36162), (69, 36177), (70, 36195), (81, 36276),

Gene: DaviePasture_34 Start: 30407, Stop: 30772, Start Num: 41

Candidate Starts for DaviePasture_34:

(Start: 41 @30407 has 33 MA's), (52, 30512), (54, 30542), (69, 30635), (72, 30674), (81, 30734), (84, 30767),

Gene: DelRio_29 Start: 25409, Stop: 25777, Start Num: 40

Candidate Starts for DelRio_29:

(Start: 40 @25409 has 16 MA's), (47, 25460), (64, 25583),

Gene: Diminimus_33 Start: 28084, Stop: 28446, Start Num: 43

Candidate Starts for Diminimus_33:

(23, 27964), (30, 28000), (31, 28003), (34, 28015), (Start: 41 @28081 has 33 MA's), (Start: 43 @28084 has 115 MA's), (52, 28186), (55, 28222), (64, 28252), (67, 28294), (75, 28369), (77, 28378), (81, 28408),

Gene: Dogfish_31 Start: 27723, Stop: 28085, Start Num: 43

Candidate Starts for Dogfish_31:

(3, 27189), (4, 27192), (11, 27291), (Start: 43 @27723 has 115 MA's), (69, 27948),

Gene: Donovan_24 Start: 22506, Stop: 22868, Start Num: 43

Candidate Starts for Donovan_24:

(Start: 43 @22506 has 115 MA's), (52, 22608), (61, 22659), (64, 22674), (65, 22689), (70, 22749), (74, 22785), (82, 22836),

Gene: DoobyDoo_33 Start: 29557, Stop: 29922, Start Num: 41

Candidate Starts for DoobyDoo_33:

(Start: 41 @29557 has 33 MA's), (69, 29785), (81, 29884), (84, 29917),

Gene: Dulcita_33 Start: 28084, Stop: 28446, Start Num: 43

Candidate Starts for Dulcita_33:

(23, 27964), (30, 28000), (31, 28003), (34, 28015), (Start: 41 @28081 has 33 MA's), (Start: 43 @28084 has 115 MA's), (52, 28186), (55, 28222), (64, 28252), (67, 28294), (75, 28369), (77, 28378), (81, 28408),

Gene: DumpsterDude_24 Start: 23094, Stop: 23456, Start Num: 43

Candidate Starts for DumpsterDude_24:

(Start: 43 @23094 has 115 MA's), (53, 23202), (75, 23379),

Gene: Dynamo_24 Start: 22906, Stop: 23268, Start Num: 43

Candidate Starts for Dynamo_24:

(Start: 43 @22906 has 115 MA's), (52, 23008), (64, 23074), (82, 23236),

Gene: Edugator_28 Start: 25101, Stop: 25499, Start Num: 43

Candidate Starts for Edugator_28:

(Start: 43 @25101 has 115 MA's), (57, 25263), (64, 25305), (66, 25332), (70, 25380), (71, 25398), (75, 25422), (80, 25455), (83, 25476),

Gene: Eponine_31 Start: 26172, Stop: 26534, Start Num: 43

Candidate Starts for Eponine_31:

(Start: 43 @26172 has 115 MA's), (52, 26274), (64, 26340), (67, 26382), (70, 26415), (71, 26433), (80, 26490), (82, 26502),

Gene: Erutan_34 Start: 30065, Stop: 30430, Start Num: 41

Candidate Starts for Erutan_34:

(Start: 41 @30065 has 33 MA's), (55, 30206), (66, 30263), (67, 30278), (69, 30293), (75, 30353), (81, 30392), (84, 30425),

Gene: Ewald_31 Start: 27746, Stop: 28108, Start Num: 43

Candidate Starts for Ewald_31:

(Start: 43 @27746 has 115 MA's), (51, 27839), (69, 27971), (75, 28031), (82, 28076),

Gene: FF47_26 Start: 22689, Stop: 23051, Start Num: 43

Candidate Starts for FF47_26:

(Start: 43 @22689 has 115 MA's), (47, 22737), (50, 22767), (51, 22782), (52, 22791), (65, 22872), (66, 22884), (72, 22953), (75, 22974), (81, 23013), (82, 23019),

Gene: Farewell_23 Start: 23531, Stop: 23893, Start Num: 43

Candidate Starts for Farewell_23:

(Start: 43 @23531 has 115 MA's), (75, 23816), (77, 23825), (81, 23855),

Gene: Feyre_28 Start: 24943, Stop: 25305, Start Num: 43

Candidate Starts for Feyre_28:

(Start: 43 @24943 has 115 MA's), (52, 25045), (65, 25126), (67, 25153), (70, 25186), (71, 25204), (80, 25261), (83, 25282),

Gene: FirstPlacePfu_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for FirstPlacePfu_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Fishburne_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Fishburne_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Francois_28 Start: 24427, Stop: 24795, Start Num: 40

Candidate Starts for Francois_28:

(Start: 40 @24427 has 16 MA's), (64, 24601),

Gene: FreakyGoo_32 Start: 28085, Stop: 28447, Start Num: 43

Candidate Starts for FreakyGoo_32:

(23, 27965), (30, 28001), (31, 28004), (34, 28016), (Start: 41 @28082 has 33 MA's), (Start: 43 @28085 has 115 MA's), (52, 28187), (55, 28223), (64, 28253), (67, 28295), (75, 28370), (77, 28379), (81, 28409),

Gene: Fulcrum_35 Start: 30585, Stop: 30950, Start Num: 41

Candidate Starts for Fulcrum_35:

(Start: 41 @30585 has 33 MA's), (66, 30783), (67, 30798), (69, 30813), (81, 30912), (84, 30945),

Gene: GMA7_25 Start: 31966, Stop: 32343, Start Num: 39

Candidate Starts for GMA7_25:

(Start: 39 @31966 has 3 MA's), (44, 32011), (52, 32080), (55, 32116), (65, 32161), (66, 32173),

Gene: GOATification_35 Start: 30585, Stop: 30950, Start Num: 41

Candidate Starts for GOATification_35:

(Start: 41 @30585 has 33 MA's), (66, 30783), (67, 30798), (69, 30813), (81, 30912), (84, 30945),

Gene: GTE7_25 Start: 31997, Stop: 32374, Start Num: 39

Candidate Starts for GTE7_25:

(36, 31952), (Start: 39 @31997 has 3 MA's), (44, 32042), (52, 32111), (55, 32147), (65, 32192), (66, 32204),

Gene: Gavriela_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for Gavriela_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Genamy16_35 Start: 28883, Stop: 29248, Start Num: 41

Candidate Starts for Genamy16_35:

(Start: 41 @28883 has 33 MA's), (52, 28988), (65, 29069), (81, 29210),

Gene: Gengar_28 Start: 25053, Stop: 25415, Start Num: 43

Candidate Starts for Gengar_28:

(Start: 43 @25053 has 115 MA's), (52, 25155), (65, 25236), (67, 25263), (70, 25296), (71, 25314), (80, 25371), (83, 25392),

Gene: Gibbin_35 Start: 30684, Stop: 31049, Start Num: 41

Candidate Starts for Gibbin_35:

(Start: 41 @30684 has 33 MA's), (69, 30912), (81, 31011), (84, 31044),

Gene: Glaske_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for Glaske_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Glaske16_33 Start: 28084, Stop: 28446, Start Num: 43

Candidate Starts for Glaske16_33:

(23, 27964), (30, 28000), (31, 28003), (34, 28015), (Start: 41 @28081 has 33 MA's), (Start: 43 @28084 has 115 MA's), (52, 28186), (55, 28222), (64, 28252), (67, 28294), (75, 28369), (77, 28378), (81, 28408),

Gene: GrandSlam_28 Start: 24938, Stop: 25306, Start Num: 40

Candidate Starts for GrandSlam_28:

(Start: 40 @24938 has 16 MA's), (64, 25112),

Gene: Gretellyn_34 Start: 30949, Stop: 31314, Start Num: 41

Candidate Starts for Gretellyn_34:

(Start: 41 @30949 has 33 MA's), (52, 31054), (54, 31084), (66, 31147), (69, 31177), (72, 31216), (81, 31276), (84, 31309),

Gene: Guillsminger_28 Start: 25025, Stop: 25387, Start Num: 43

Candidate Starts for Guillsminger_28:

(Start: 43 @25025 has 115 MA's), (52, 25127), (65, 25208), (67, 25235), (70, 25268), (71, 25286), (75, 25310), (78, 25322), (80, 25343), (83, 25364),

Gene: HC_24 Start: 22587, Stop: 22949, Start Num: 43

Candidate Starts for HC_24:

(Start: 43 @22587 has 115 MA's), (52, 22689), (61, 22740), (64, 22755), (65, 22770), (70, 22830), (74, 22866), (82, 22917),

Gene: HUHilltop_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for HUHilltop_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Hamood_28 Start: 24938, Stop: 25306, Start Num: 40

Candidate Starts for Hamood_28:

(Start: 40 @24938 has 16 MA's), (64, 25112),

Gene: HayZem_34 Start: 37749, Stop: 38126, Start Num: 39

Candidate Starts for HayZem_34:

(36, 37704), (Start: 39 @37749 has 3 MA's), (44, 37794), (55, 37899), (65, 37944), (66, 37956),

Gene: Heftyboy_28 Start: 25173, Stop: 25535, Start Num: 43

Candidate Starts for Heftyboy_28:

(Start: 43 @25173 has 115 MA's), (52, 25275), (65, 25356), (67, 25383), (70, 25416), (71, 25434), (75, 25458), (78, 25470), (80, 25491), (83, 25512),

Gene: Hilltopfarm_29 Start: 27142, Stop: 27540, Start Num: 43

Candidate Starts for Hilltopfarm_29:

(5, 26638), (6, 26641), (9, 26692), (10, 26698), (13, 26821), (14, 26830), (15, 26833), (16, 26881), (17, 26884), (18, 26890), (19, 26953), (21, 27007), (23, 27010), (25, 27013), (26, 27016), (27, 27022), (30, 27046), (31, 27049), (32, 27055), (34, 27061), (Start: 43 @27142 has 115 MA's), (52, 27244), (56, 27292), (61, 27331), (67, 27388), (72, 27442), (75, 27463),

Gene: IPhane7_32 Start: 28085, Stop: 28447, Start Num: 43

Candidate Starts for IPhane7_32:

(23, 27965), (30, 28001), (31, 28004), (34, 28016), (Start: 41 @28082 has 33 MA's), (Start: 43 @28085 has 115 MA's), (52, 28187), (55, 28223), (64, 28253), (67, 28295), (75, 28370), (77, 28379), (81, 28409),

Gene: IdentityCrisis_22 Start: 20106, Stop: 20483, Start Num: 43

Candidate Starts for IdentityCrisis_22:

(38, 20091), (Start: 43 @20106 has 115 MA's), (52, 20223), (61, 20274), (69, 20346), (82, 20451),

Gene: InvictusManeo_28 Start: 25174, Stop: 25572, Start Num: 43

Candidate Starts for InvictusManeo_28:

(Start: 43 @25174 has 115 MA's), (64, 25378), (66, 25405), (71, 25471), (75, 25495), (80, 25528), (83, 25549),

Gene: Izel_31 Start: 28084, Stop: 28446, Start Num: 43

Candidate Starts for Izel_31:

(23, 27964), (30, 28000), (31, 28003), (34, 28015), (Start: 41 @28081 has 33 MA's), (Start: 43 @28084 has 115 MA's), (52, 28186), (55, 28222), (64, 28252), (67, 28294), (75, 28369), (77, 28378), (81, 28408),

Gene: Jalebi_33 Start: 31119, Stop: 31484, Start Num: 41

Candidate Starts for Jalebi_33:

(Start: 41 @31119 has 33 MA's), (69, 31347), (81, 31446), (84, 31479),

Gene: Jamemuya19_34 Start: 28473, Stop: 28838, Start Num: 41

Candidate Starts for Jamemuya19_34:

(Start: 41 @28473 has 33 MA's), (52, 28578), (65, 28659), (81, 28800),

Gene: Jebeks_24 Start: 22502, Stop: 22864, Start Num: 43

Candidate Starts for Jebeks_24:

(Start: 43 @22502 has 115 MA's), (52, 22604), (61, 22655), (64, 22670), (65, 22685), (70, 22745), (74, 22781), (82, 22832),

Gene: Juliette_32 Start: 25747, Stop: 26109, Start Num: 43

Candidate Starts for Juliette_32:

(Start: 43 @25747 has 115 MA's), (52, 25849), (64, 25915), (82, 26077),

Gene: Jumbo_27 Start: 37792, Stop: 38157, Start Num: 41

Candidate Starts for Jumbo_27:

(Start: 41 @37792 has 33 MA's), (45, 37834), (48, 37849), (61, 37948), (72, 38059), (82, 38125),

Gene: Jung_24 Start: 22477, Stop: 22839, Start Num: 43

Candidate Starts for Jung_24:

(Start: 43 @22477 has 115 MA's), (52, 22579), (61, 22630), (64, 22645), (65, 22660), (70, 22720), (71, 22738), (82, 22807),

Gene: Juniormint_24 Start: 22561, Stop: 22923, Start Num: 43

Candidate Starts for Juniormint_24:

(Start: 43 @22561 has 115 MA's), (52, 22663), (61, 22714), (64, 22729), (65, 22744), (70, 22804), (74, 22840), (82, 22891),

Gene: Kari_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Kari_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (71, 22778), (82, 22847),

Gene: Kevin1_24 Start: 21220, Stop: 21582, Start Num: 43

Candidate Starts for Kevin1_24:

(Start: 43 @21220 has 115 MA's), (64, 21388), (82, 21550),

Gene: KilKor_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for KilKor_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Kratio_27 Start: 24805, Stop: 25203, Start Num: 43

Candidate Starts for Kratio_27:

(Start: 43 @24805 has 115 MA's), (64, 25009), (66, 25036), (70, 25084), (71, 25102), (75, 25126), (80, 25159), (83, 25180),

Gene: Ksquared_24 Start: 22539, Stop: 22901, Start Num: 43

Candidate Starts for Ksquared_24:

(Start: 43 @22539 has 115 MA's), (52, 22641), (61, 22692), (64, 22707), (65, 22722), (70, 22782), (74, 22818), (82, 22869),

Gene: Labelle_38 Start: 33093, Stop: 33458, Start Num: 41

Candidate Starts for Labelle_38:

(Start: 41 @33093 has 33 MA's), (49, 33168), (66, 33291), (67, 33306), (69, 33321), (75, 33381), (83, 33435), (84, 33453),

Gene: Lambo_34 Start: 30604, Stop: 30969, Start Num: 41

Candidate Starts for Lambo_34:

(Start: 41 @30604 has 33 MA's), (51, 30700), (55, 30745), (66, 30802), (67, 30817), (69, 30832), (75, 30892), (81, 30931), (84, 30964),

Gene: Langerak_24 Start: 22501, Stop: 22863, Start Num: 43

Candidate Starts for Langerak_24:

(Start: 43 @22501 has 115 MA's), (52, 22603), (61, 22654), (64, 22669), (65, 22684), (70, 22744), (74, 22780), (82, 22831),

Gene: Larva_29 Start: 24969, Stop: 25367, Start Num: 43

Candidate Starts for Larva_29:

(Start: 43 @24969 has 115 MA's), (57, 25131), (64, 25173), (66, 25200), (70, 25248), (71, 25266), (75, 25290), (80, 25323), (83, 25344),

Gene: Leston_28 Start: 25155, Stop: 25517, Start Num: 43

Candidate Starts for Leston_28:

(Start: 43 @25155 has 115 MA's), (52, 25257), (65, 25338), (67, 25365), (70, 25398), (71, 25416), (75, 25440), (78, 25452), (80, 25473), (83, 25494),

Gene: Lila22_33 Start: 30559, Stop: 30924, Start Num: 41

Candidate Starts for Lila22_33:

(Start: 41 @30559 has 33 MA's), (51, 30655), (55, 30700), (66, 30757), (67, 30772), (69, 30787), (75, 30847), (84, 30919),

Gene: LilhomieP_31 Start: 28085, Stop: 28447, Start Num: 43

Candidate Starts for LilhomieP_31:

(23, 27965), (30, 28001), (31, 28004), (34, 28016), (Start: 41 @28082 has 33 MA's), (Start: 43 @28085 has 115 MA's), (52, 28187), (55, 28223), (64, 28253), (67, 28295), (75, 28370), (77, 28379), (81, 28409),

Gene: LuckyLeo_33 Start: 29925, Stop: 30290, Start Num: 41

Candidate Starts for LuckyLeo_33:

(Start: 41 @29925 has 33 MA's), (55, 30066), (67, 30138), (69, 30153), (75, 30213), (81, 30252), (84, 30285),

Gene: Maco6_24 Start: 22023, Stop: 22385, Start Num: 43

Candidate Starts for Maco6_24:

(Start: 43 @22023 has 115 MA's), (47, 22071), (50, 22101), (51, 22116), (52, 22125), (65, 22206), (66, 22218), (72, 22287), (75, 22308), (81, 22347), (82, 22353),

Gene: Madruga_37 Start: 32762, Stop: 33127, Start Num: 41

Candidate Starts for Madruga_37:

(Start: 41 @32762 has 33 MA's), (49, 32837), (66, 32960), (67, 32975), (69, 32990), (75, 33050), (83, 33104), (84, 33122),

Gene: Majeke_24 Start: 22523, Stop: 22885, Start Num: 43

Candidate Starts for Majeke_24:

(Start: 43 @22523 has 115 MA's), (52, 22625), (61, 22676), (64, 22691), (65, 22706), (70, 22766), (74, 22802), (82, 22853),

Gene: MakCheese_25 Start: 22679, Stop: 23044, Start Num: 41

Candidate Starts for MakCheese_25:

(1, 21704), (2, 22112), (7, 22184), (8, 22187), (12, 22277), (Start: 41 @22679 has 33 MA's), (55, 22820), (66, 22877), (67, 22892), (75, 22967), (81, 23006), (82, 23012), (84, 23039),

Gene: MalagasyRose_29 Start: 23806, Stop: 24180, Start Num: 43

Candidate Starts for MalagasyRose_29:

(Start: 43 @23806 has 115 MA's), (49, 23878), (54, 23938), (58, 23965), (66, 24013), (67, 24028), (70, 24061), (75, 24103), (80, 24136), (81, 24142), (82, 24148), (83, 24157),

Gene: Malithi_24 Start: 22442, Stop: 22804, Start Num: 43

Candidate Starts for Malithi_24:

(Start: 43 @22442 has 115 MA's), (52, 22544), (61, 22595), (64, 22610), (65, 22625), (70, 22685), (74, 22721), (82, 22772),

Gene: Mangethe_24 Start: 22523, Stop: 22885, Start Num: 43

Candidate Starts for Mangethe_24:

(Start: 43 @22523 has 115 MA's), (52, 22625), (61, 22676), (64, 22691), (65, 22706), (70, 22766), (74, 22802), (82, 22853),

Gene: Megiddo_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for Megiddo_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Meyran_30 Start: 28212, Stop: 28574, Start Num: 43

Candidate Starts for Meyran_30:

(Start: 43 @28212 has 115 MA's), (75, 28497), (82, 28542),

Gene: MichelleMyBell_24 Start: 21291, Stop: 21653, Start Num: 43

Candidate Starts for MichelleMyBell_24:

(Start: 43 @21291 has 115 MA's), (52, 21393), (64, 21459), (67, 21501), (70, 21534), (71, 21552), (80, 21609), (82, 21621),

Gene: Mima20_35 Start: 30308, Stop: 30673, Start Num: 41

Candidate Starts for Mima20_35:

(Start: 41 @30308 has 33 MA's), (69, 30536), (81, 30635), (84, 30668),

Gene: Miryou_28 Start: 25010, Stop: 25372, Start Num: 43

Candidate Starts for Miryou_28:

(Start: 43 @25010 has 115 MA's), (52, 25112), (65, 25193), (67, 25220), (70, 25253), (71, 25271), (75, 25295), (78, 25307), (80, 25328), (83, 25349),

Gene: MoiGyank_36 Start: 30989, Stop: 31354, Start Num: 41

Candidate Starts for MoiGyank_36:

(Start: 41 @30989 has 33 MA's), (69, 31217), (81, 31316), (84, 31349),

Gene: Muddy_26 Start: 22970, Stop: 23332, Start Num: 43

Candidate Starts for Muddy_26:

(Start: 43 @22970 has 115 MA's), (47, 23018), (50, 23048), (51, 23063), (52, 23072), (65, 23153), (66, 23165), (72, 23234), (75, 23255), (81, 23294), (82, 23300),

Gene: Mulch_28 Start: 24404, Stop: 24772, Start Num: 40

Candidate Starts for Mulch_28:

(Start: 40 @24404 has 16 MA's), (64, 24578),

Gene: Nadeem_28 Start: 24404, Stop: 24772, Start Num: 40

Candidate Starts for Nadeem_28:

(Start: 40 @24404 has 16 MA's), (64, 24578),

Gene: NancyRae_28 Start: 24410, Stop: 24778, Start Num: 40

Candidate Starts for NancyRae_28:

(Start: 40 @24410 has 16 MA's), (64, 24584),

Gene: Nazo_24 Start: 23148, Stop: 23510, Start Num: 43

Candidate Starts for Nazo_24:

(Start: 43 @23148 has 115 MA's), (52, 23250), (67, 23358), (75, 23433), (77, 23442), (81, 23472), (82, 23478),

Gene: Necropolis_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Necropolis_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Neighly_29 Start: 24968, Stop: 25366, Start Num: 43

Candidate Starts for Neighly_29:

(Start: 43 @24968 has 115 MA's), (57, 25130), (64, 25172), (66, 25199), (70, 25247), (71, 25265), (75, 25289), (80, 25322), (83, 25343),

Gene: NorManre_35 Start: 30192, Stop: 30557, Start Num: 41

Candidate Starts for NorManre_35:

(Start: 41 @30192 has 33 MA's), (55, 30333), (66, 30390), (67, 30405), (69, 30420), (72, 30459), (81, 30519), (84, 30552),

Gene: NovaSharks_34 Start: 28473, Stop: 28838, Start Num: 41

Candidate Starts for NovaSharks_34:

(Start: 41 @28473 has 33 MA's), (52, 28578), (65, 28659), (81, 28800),

Gene: Nyceirae_32 Start: 27931, Stop: 28293, Start Num: 43

Candidate Starts for Nyceirae_32:

(Start: 43 @27931 has 115 MA's), (75, 28216),

Gene: OkiRoe_28 Start: 25026, Stop: 25388, Start Num: 43

Candidate Starts for OkiRoe_28:

(Start: 43 @25026 has 115 MA's), (52, 25128), (65, 25209), (67, 25236), (70, 25269), (71, 25287), (75, 25311), (78, 25323), (80, 25344), (83, 25365),

Gene: Omnicron_29 Start: 23896, Stop: 24297, Start Num: 42

Candidate Starts for Omnicron_29:

(20, 23746), (22, 23764), (24, 23767), (28, 23791), (29, 23794), (33, 23812), (35, 23830), (Start: 42 @23896 has 1 MA's), (52, 23998), (54, 24028), (59, 24064), (69, 24160), (70, 24178), (71, 24196), (73, 24211), (74, 24214), (80, 24253), (83, 24274),

Gene: OtterstedtS21_34 Start: 30265, Stop: 30630, Start Num: 41

Candidate Starts for OtterstedtS21_34:

(Start: 41 @30265 has 33 MA's), (52, 30370), (54, 30400), (66, 30463), (69, 30493), (72, 30532), (81, 30592), (84, 30625),

Gene: Panchino_23 Start: 21401, Stop: 21763, Start Num: 43

Candidate Starts for Panchino_23:

(Start: 43 @21401 has 115 MA's), (64, 21569), (65, 21584), (71, 21662), (80, 21719), (82, 21731),

Gene: Paola_28 Start: 25025, Stop: 25387, Start Num: 43

Candidate Starts for Paola_28:

(Start: 43 @25025 has 115 MA's), (52, 25127), (65, 25208), (67, 25235), (70, 25268), (71, 25286), (75, 25310), (78, 25322), (80, 25343), (83, 25364),

Gene: Parada_28 Start: 24404, Stop: 24772, Start Num: 40

Candidate Starts for Parada_28:

(Start: 40 @24404 has 16 MA's), (64, 24578),

Gene: ParvusTarda_34 Start: 29733, Stop: 30098, Start Num: 41

Candidate Starts for ParvusTarda_34:

(Start: 41 @29733 has 33 MA's), (52, 29838), (54, 29868), (66, 29931), (67, 29946), (69, 29961), (81, 30060), (84, 30093),

Gene: Patience_39 Start: 33643, Stop: 34008, Start Num: 41

Candidate Starts for Patience_39:

(Start: 41 @33643 has 33 MA's), (49, 33718), (66, 33841), (67, 33856), (69, 33871), (75, 33931), (83, 33985), (84, 34003),

Gene: Patos_35 Start: 30192, Stop: 30557, Start Num: 41

Candidate Starts for Patos_35:

(Start: 41 @30192 has 33 MA's), (55, 30333), (66, 30390), (67, 30405), (69, 30420), (72, 30459), (81, 30519), (84, 30552),

Gene: PegLeg_32 Start: 28084, Stop: 28446, Start Num: 43

Candidate Starts for PegLeg_32:

(23, 27964), (30, 28000), (31, 28003), (34, 28015), (Start: 41 @28081 has 33 MA's), (Start: 43 @28084 has 115 MA's), (52, 28186), (55, 28222), (64, 28252), (67, 28294), (75, 28369), (77, 28378), (81, 28408),

Gene: Phalm_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for Phalm_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Phayonce_24 Start: 23074, Stop: 23436, Start Num: 43

Candidate Starts for Phayonce_24:

(Start: 43 @23074 has 115 MA's), (52, 23176), (64, 23242), (75, 23359), (77, 23368), (81, 23398),

Gene: Phegasus_24 Start: 22523, Stop: 22885, Start Num: 43

Candidate Starts for Phegasus_24:

(Start: 43 @22523 has 115 MA's), (52, 22625), (61, 22676), (64, 22691), (65, 22706), (70, 22766), (74, 22802), (82, 22853),

Gene: Phineas_24 Start: 22888, Stop: 23250, Start Num: 43

Candidate Starts for Phineas_24:

(Start: 43 @22888 has 115 MA's), (52, 22990), (64, 23056), (82, 23218),

Gene: Phishy_31 Start: 27869, Stop: 28231, Start Num: 43

Candidate Starts for Phishy_31:

(Start: 43 @27869 has 115 MA's), (75, 28154), (81, 28193),

Gene: Phrann_23 Start: 21664, Stop: 22026, Start Num: 43

Candidate Starts for Phrann_23:

(Start: 43 @21664 has 115 MA's), (52, 21766), (64, 21832), (65, 21847), (70, 21907), (71, 21925), (82, 21994),

Gene: Pimento_28 Start: 23879, Stop: 24247, Start Num: 40

Candidate Starts for Pimento_28:

(Start: 40 @23879 has 16 MA's), (64, 24053), (68, 24107),

Gene: Polkaroo_24 Start: 22533, Stop: 22895, Start Num: 43

Candidate Starts for Polkaroo_24:

(Start: 43 @22533 has 115 MA's), (52, 22635), (61, 22686), (64, 22701), (65, 22716), (70, 22776), (74, 22812), (82, 22863),

Gene: Psycho_29 Start: 25099, Stop: 25497, Start Num: 43

Candidate Starts for Psycho_29:

(Start: 43 @25099 has 115 MA's), (57, 25261), (64, 25303), (66, 25330), (70, 25378), (71, 25396), (75, 25420), (80, 25453), (83, 25474),

Gene: Purky_24 Start: 22771, Stop: 23133, Start Num: 43

Candidate Starts for Purky_24:

(37, 22756), (Start: 43 @22771 has 115 MA's), (75, 23056), (77, 23065), (81, 23095),

Gene: Ranch_34 Start: 29091, Stop: 29456, Start Num: 41

Candidate Starts for Ranch_34:

(Start: 41 @29091 has 33 MA's), (55, 29232), (66, 29289), (67, 29304), (69, 29319), (75, 29379), (81, 29418), (84, 29451),

Gene: Rando14_29 Start: 23799, Stop: 24200, Start Num: 43

Candidate Starts for Rando14_29:

(38, 23784), (Start: 43 @23799 has 115 MA's), (52, 23901), (54, 23931), (59, 23967), (66, 24033), (69, 24063), (70, 24081), (73, 24114), (74, 24117), (80, 24156), (83, 24177),

Gene: RavenCo17_27 Start: 24931, Stop: 25293, Start Num: 43

Candidate Starts for RavenCo17_27:

(Start: 43 @24931 has 115 MA's), (62, 25087), (69, 25156), (72, 25195), (75, 25216),

Gene: Raymond7_23 Start: 21677, Stop: 22039, Start Num: 43

Candidate Starts for Raymond7_23:

(Start: 43 @21677 has 115 MA's), (52, 21779), (64, 21845), (67, 21887), (70, 21920), (71, 21938), (80, 21995), (82, 22007),

Gene: RazorC_33 Start: 28865, Stop: 29230, Start Num: 41

Candidate Starts for RazorC_33:

(Start: 41 @28865 has 33 MA's), (52, 28970), (65, 29051), (81, 29192),

Gene: Rebel_23 Start: 21086, Stop: 21448, Start Num: 43

Candidate Starts for Rebel_23:

(Start: 43 @21086 has 115 MA's), (52, 21188), (64, 21254), (65, 21269), (70, 21329), (71, 21347), (80, 21404), (82, 21416),

Gene: Reindeer_32 Start: 28589, Stop: 28951, Start Num: 43

Candidate Starts for Reindeer_32:

(Start: 41 @28586 has 33 MA's), (Start: 43 @28589 has 115 MA's), (51, 28682), (52, 28691), (64, 28757), (67, 28799), (72, 28853), (75, 28874), (77, 28883), (78, 28886), (82, 28919),

Gene: Rubeelu_24 Start: 21222, Stop: 21584, Start Num: 43

Candidate Starts for Rubeelu_24:

(Start: 43 @21222 has 115 MA's), (64, 21390), (82, 21552),

Gene: Rumi_34 Start: 28476, Stop: 28841, Start Num: 41

Candidate Starts for Rumi_34:

(Start: 41 @28476 has 33 MA's), (52, 28581), (65, 28662), (81, 28803),

Gene: Ruthiejr_31 Start: 25478, Stop: 25840, Start Num: 43

Candidate Starts for Ruthiejr_31:

(Start: 43 @25478 has 115 MA's), (52, 25580), (64, 25646), (82, 25808),

Gene: Sadboi_35 Start: 30950, Stop: 31315, Start Num: 41

Candidate Starts for Sadboi_35:

(Start: 41 @30950 has 33 MA's), (52, 31055), (54, 31085), (66, 31148), (69, 31178), (72, 31217), (81, 31277), (84, 31310),

Gene: SamScheppers_29 Start: 25810, Stop: 26172, Start Num: 43

Candidate Starts for SamScheppers_29:

(Start: 43 @25810 has 115 MA's), (52, 25912), (64, 25978), (67, 26020), (70, 26053), (71, 26071), (80, 26128), (82, 26140),

Gene: Sampudon_34 Start: 31119, Stop: 31484, Start Num: 41

Candidate Starts for Sampudon_34:

(Start: 41 @31119 has 33 MA's), (69, 31347), (81, 31446), (84, 31479),

Gene: Sbash_23 Start: 22693, Stop: 23055, Start Num: 43

Candidate Starts for Sbash_23:

(Start: 43 @22693 has 115 MA's), (52, 22795), (64, 22861), (75, 22978), (77, 22987), (81, 23017),

Gene: Scitech_23 Start: 21409, Stop: 21771, Start Num: 43

Candidate Starts for Scitech_23:

(Start: 43 @21409 has 115 MA's), (52, 21511), (64, 21577), (80, 21727), (82, 21739),

Gene: Shweta_23 Start: 21419, Stop: 21781, Start Num: 43

Candidate Starts for Shweta_23:

(Start: 43 @21419 has 115 MA's), (52, 21521), (64, 21587), (80, 21737), (82, 21749),

Gene: Skinny_33 Start: 28514, Stop: 28876, Start Num: 43

Candidate Starts for Skinny_33:

(Start: 43 @28514 has 115 MA's), (51, 28607), (52, 28616), (65, 28697), (71, 28775), (82, 28844), (83, 28853),

Gene: SkinnyPete_23 Start: 21425, Stop: 21787, Start Num: 43

Candidate Starts for SkinnyPete_23:

(Start: 43 @21425 has 115 MA's), (64, 21593), (65, 21608), (71, 21686), (80, 21743), (82, 21755),

Gene: SlimJimmy_31 Start: 28068, Stop: 28430, Start Num: 43

Candidate Starts for SlimJimmy_31:

(23, 27948), (30, 27984), (31, 27987), (34, 27999), (Start: 41 @28065 has 33 MA's), (Start: 43 @28068 has 115 MA's), (52, 28170), (55, 28206), (64, 28236), (67, 28278), (75, 28353), (77, 28362), (81, 28392),

Gene: SoSeph_28 Start: 25173, Stop: 25535, Start Num: 43

Candidate Starts for SoSeph_28:

(Start: 43 @25173 has 115 MA's), (52, 25275), (65, 25356), (67, 25383), (70, 25416), (71, 25434), (75, 25458), (78, 25470), (80, 25491), (83, 25512),

Gene: Sonah_24 Start: 22507, Stop: 22869, Start Num: 43

Candidate Starts for Sonah_24:

(Start: 43 @22507 has 115 MA's), (52, 22609), (61, 22660), (64, 22675), (65, 22690), (70, 22750), (74, 22786), (82, 22837),

Gene: Sparky_23 Start: 23532, Stop: 23894, Start Num: 43

Candidate Starts for Sparky_23:

(Start: 43 @23532 has 115 MA's), (75, 23817), (77, 23826), (81, 23856),

Gene: StevieRay_24 Start: 22508, Stop: 22870, Start Num: 43

Candidate Starts for StevieRay_24:

(Start: 43 @22508 has 115 MA's), (52, 22610), (61, 22661), (64, 22676), (65, 22691), (70, 22751), (74, 22787), (82, 22838),

Gene: StressBall_24 Start: 22782, Stop: 23144, Start Num: 43

Candidate Starts for StressBall_24:

(Start: 43 @22782 has 115 MA's), (52, 22884), (64, 22950), (80, 23100), (82, 23112),

Gene: Taquito_29 Start: 25857, Stop: 26219, Start Num: 43

Candidate Starts for Taquito_29:

(Start: 43 @25857 has 115 MA's), (52, 25959), (64, 26025), (67, 26067), (70, 26100), (71, 26118), (80, 26175), (82, 26187),

Gene: Techage_24 Start: 22508, Stop: 22870, Start Num: 43

Candidate Starts for Techage_24:

(Start: 43 @22508 has 115 MA's), (52, 22610), (61, 22661), (64, 22676), (65, 22691), (70, 22751), (71, 22769), (82, 22838),

Gene: Thespis_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Thespis_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: ThulaThula_24 Start: 23080, Stop: 23442, Start Num: 43

Candidate Starts for ThulaThula_24:

(Start: 43 @23080 has 115 MA's), (52, 23182), (64, 23248), (75, 23365), (77, 23374), (81, 23404),

Gene: Thyatira_28 Start: 25025, Stop: 25387, Start Num: 43

Candidate Starts for Thyatira_28:

(Start: 43 @25025 has 115 MA's), (52, 25127), (69, 25250), (71, 25286), (73, 25301), (75, 25310), (80, 25343), (82, 25355), (83, 25364),

Gene: Tillicus_34 Start: 29519, Stop: 29884, Start Num: 41

Candidate Starts for Tillicus_34:

(Start: 41 @29519 has 33 MA's), (55, 29660), (67, 29732), (69, 29747), (75, 29807), (81, 29846), (84, 29879),

Gene: Tortellini_24 Start: 23121, Stop: 23483, Start Num: 43

Candidate Starts for Tortellini_24:

(Start: 43 @23121 has 115 MA's), (52, 23223), (64, 23289), (67, 23331), (70, 23364), (71, 23382), (79, 23430), (80, 23439), (82, 23451),

Gene: Towmatter_39 Start: 35786, Stop: 36151, Start Num: 40

Candidate Starts for Towmatter_39:

(Start: 40 @35786 has 16 MA's), (54, 35921), (66, 35984), (67, 35999), (69, 36014), (70, 36032), (81, 36113),

Gene: TyDawg_32 Start: 28085, Stop: 28447, Start Num: 43

Candidate Starts for TyDawg_32:

(23, 27965), (30, 28001), (31, 28004), (34, 28016), (Start: 41 @28082 has 33 MA's), (Start: 43 @28085 has 115 MA's), (52, 28187), (55, 28223), (64, 28253), (67, 28295), (75, 28370), (77, 28379), (81,

28409),

Gene: Typha_29 Start: 27112, Stop: 27510, Start Num: 43

Candidate Starts for Typha_29:

(5, 26608), (6, 26611), (9, 26662), (10, 26668), (13, 26791), (14, 26800), (15, 26803), (16, 26851), (17, 26854), (18, 26860), (19, 26923), (21, 26977), (23, 26980), (25, 26983), (26, 26986), (27, 26992), (30, 27016), (31, 27019), (32, 27025), (34, 27031), (Start: 43 @27112 has 115 MA's), (52, 27214), (56, 27262), (61, 27301), (67, 27358), (72, 27412), (75, 27433),

Gene: Venti_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Venti_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Vidya_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Vidya_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: ViviJ_27 Start: 24931, Stop: 25329, Start Num: 43

Candidate Starts for ViviJ_27:

(Start: 43 @24931 has 115 MA's), (64, 25135), (66, 25162), (71, 25228), (75, 25252), (80, 25285), (83, 25306),

Gene: Vordorf_32 Start: 28004, Stop: 28366, Start Num: 43

Candidate Starts for Vordorf_32:

(Start: 43 @28004 has 115 MA's), (69, 28229), (75, 28289), (81, 28328), (82, 28334),

Gene: Waterfoul_28 Start: 25046, Stop: 25408, Start Num: 43

Candidate Starts for Waterfoul_28:

(Start: 43 @25046 has 115 MA's), (52, 25148), (65, 25229), (67, 25256), (70, 25289), (71, 25307), (75, 25331), (78, 25343), (80, 25364), (83, 25385),

Gene: WheatThin_28 Start: 24404, Stop: 24772, Start Num: 40

Candidate Starts for WheatThin_28:

(Start: 40 @24404 has 16 MA's), (64, 24578),

Gene: Willsammy_24 Start: 22786, Stop: 23148, Start Num: 43

Candidate Starts for Willsammy_24:

(Start: 43 @22786 has 115 MA's), (52, 22888), (64, 22954), (80, 23104), (82, 23116),

Gene: Wojtek_33 Start: 29816, Stop: 30181, Start Num: 41

Candidate Starts for Wojtek_33:

(Start: 41 @29816 has 33 MA's), (55, 29957), (66, 30014), (67, 30029), (69, 30044), (75, 30104), (81, 30143), (84, 30176),

Gene: Xavia_24 Start: 23140, Stop: 23502, Start Num: 43

Candidate Starts for Xavia_24:

(Start: 43 @23140 has 115 MA's), (52, 23242), (61, 23293), (64, 23308), (65, 23323), (70, 23383), (71, 23401), (82, 23470),

Gene: Xeno_23 Start: 21421, Stop: 21783, Start Num: 43

Candidate Starts for Xeno_23:

(Start: 43 @21421 has 115 MA's), (52, 21523), (61, 21574), (64, 21589), (65, 21604), (70, 21664), (82, 21751),

Gene: Yikes_35 Start: 31198, Stop: 31563, Start Num: 41

Candidate Starts for Yikes_35:

(Start: 41 @31198 has 33 MA's), (52, 31303), (69, 31426), (81, 31525), (84, 31558),

Gene: Zany_33 Start: 30723, Stop: 31088, Start Num: 41

Candidate Starts for Zany_33:

(Start: 41 @30723 has 33 MA's), (66, 30921), (67, 30936), (69, 30951), (81, 31050), (84, 31083),

Gene: Zilizebeth_24 Start: 22517, Stop: 22879, Start Num: 43

Candidate Starts for Zilizebeth_24:

(Start: 43 @22517 has 115 MA's), (52, 22619), (61, 22670), (64, 22685), (65, 22700), (70, 22760), (74, 22796), (82, 22847),

Gene: Zodiariah_23 Start: 22978, Stop: 23340, Start Num: 43

Candidate Starts for Zodiariah_23:

(Start: 43 @22978 has 115 MA's), (55, 23116), (69, 23203),