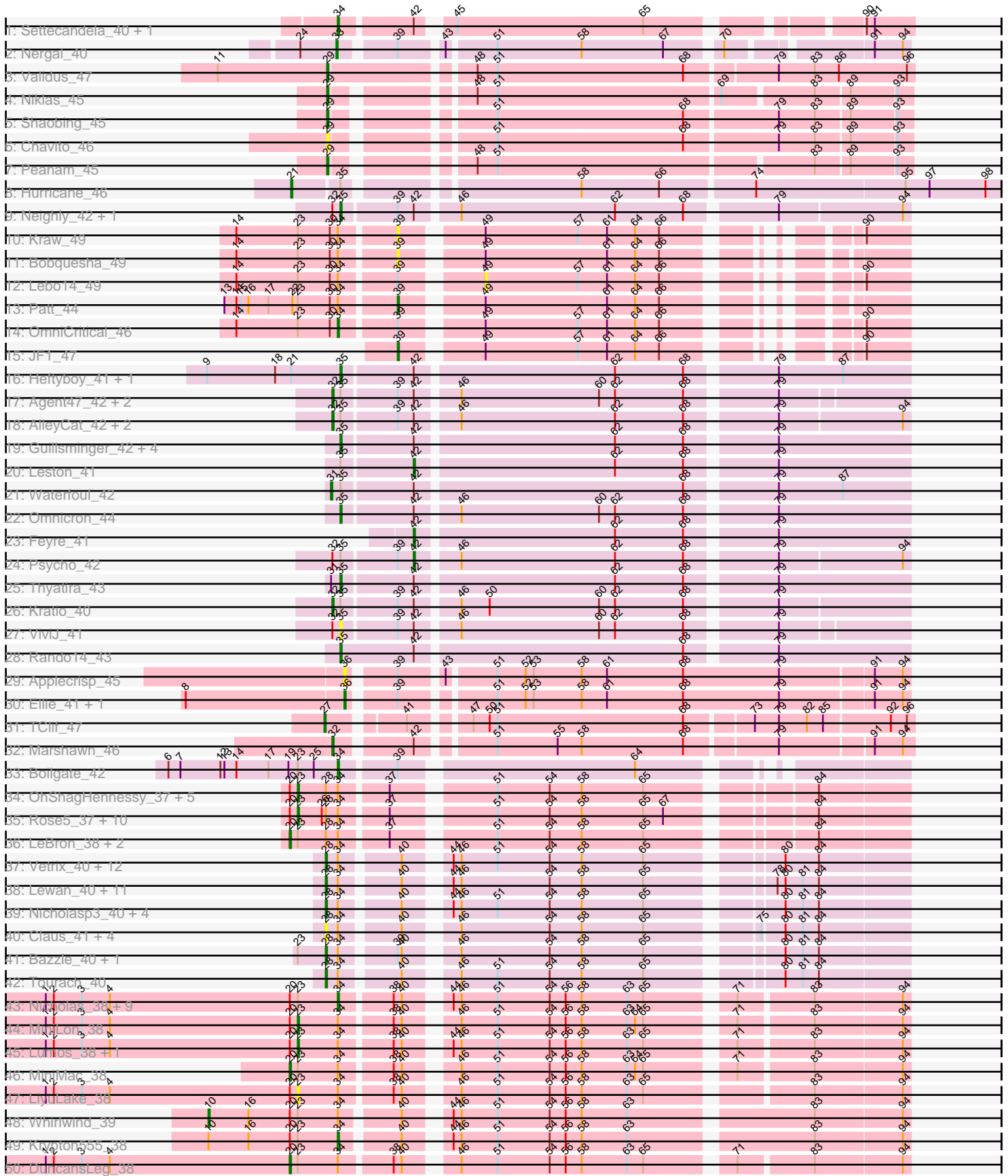
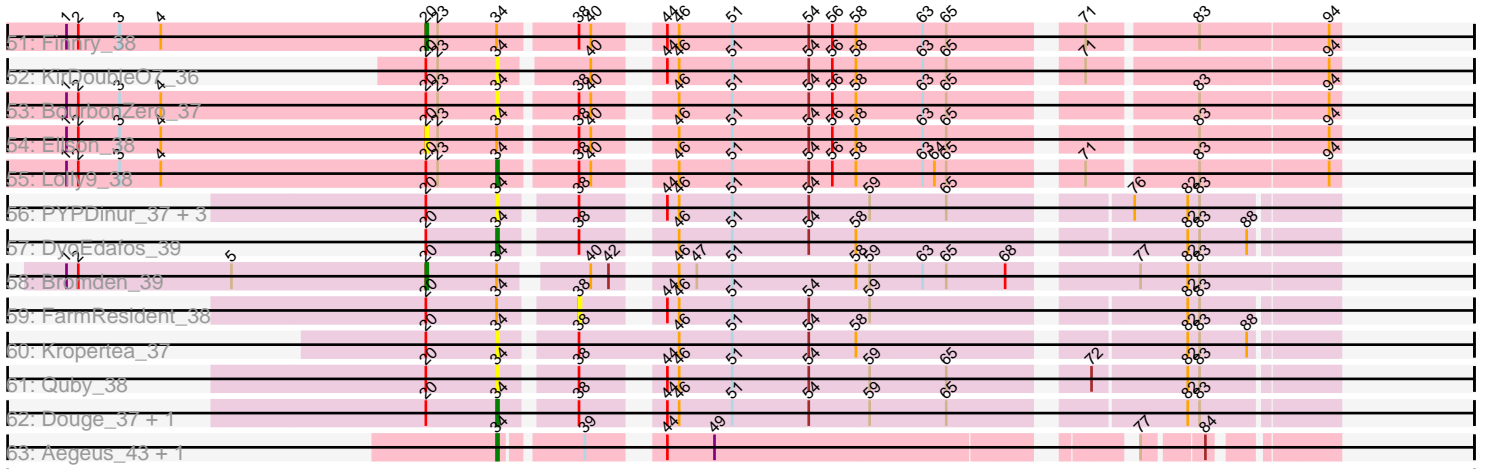


Pham 224378



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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 224378 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224378 has 139 members, 33 are drafts.

Phages represented in each track:

- Track 1 : Settecandela_40, Phrappuccino_40
- Track 2 : Nergal_40
- Track 3 : Validus_47
- Track 4 : Niklas_45
- Track 5 : Shaobing_45
- Track 6 : Chavito_46
- Track 7 : Peanam_45
- Track 8 : Hurricane_46
- Track 9 : Neighly_42, Edugator_41
- Track 10 : Kraw_49
- Track 11 : Bobquesha_49
- Track 12 : Lebo14_49
- Track 13 : Patt_44
- Track 14 : OmniCritical_46
- Track 15 : JF1_47
- Track 16 : Heftyboy_41, SoSeph_41
- Track 17 : Agent47_42, InvictusManeo_41, Collard_41
- Track 18 : AlleyCat_42, Larva_42, Dadosky_42
- Track 19 : Guillsminger_42, Gengar_41, OkiRoe_41, Paola_41, Miryou_43
- Track 20 : Leston_41
- Track 21 : Waterfoul_42
- Track 22 : Omnicron_44
- Track 23 : Feyre_41
- Track 24 : Psycho_42
- Track 25 : Thyatira_43
- Track 26 : Kratio_40
- Track 27 : ViviJ_41
- Track 28 : Rando14_43
- Track 29 : Applecrisp_45
- Track 30 : Ellie_41, Fefferhead_43
- Track 31 : TClif_47
- Track 32 : Marshawn_46
- Track 33 : Boilgate_42
- Track 34 : OhShagHennessy_37, Poochiewood_37, Wamburgrxpress_38, DirkDirk_37, Enceladus_37, Appletree2_37
- Track 35 : Rose5_37, Calm_38, Tyson_37, CicholasNage_38, Halena_37, Wyatt2_38, MAckerman_38, Zaria_38, Acquire49_38, AvadaKedavra_38,

Silverleaf_37

- Track 36 : LeBron_38, UPIE_38, JoeDirt_37
- Track 37 : Vetrix_40, Winky_40, Breezona_40, SoJulia_41, Gabriela_40, Rumpelstiltskin_40, BobsGarage_40, Netyap_40, BigCheese_40, Faith1_40, Miley16_40, LilDestine_40, DrSeegs_40
- Track 38 : Lewan_40, GuuelaD_40, Kahlid_40, Hafay_40, Crossroads_40, Soap141_40, Loadrie_40, Wilder_40, MkaliMitinis3_40, Sarshaun_40, Wigglewiggles_40, Zakai_40
- Track 39 : Nicholasp3_40, Rossetti_40, Finemlucis_40, Gardann_40, Underpass_40
- Track 40 : Claus_41, Baoshan_39, DHan_41, ZhongYanYuan_39, DanBing_40
- Track 41 : Bazzle_40, Archie_40
- Track 42 : Tourach_40
- Track 43 : Nicholas_38, Red305_38, Jubie_38, Snenia_38, Bellis_38, Moostard_38, Clautastrophe_38, MsGreen_38, Jobypre_38, TriFive_38
- Track 44 : MiniLon_38
- Track 45 : Lumos_38, Kingsolomon_38
- Track 46 : MiniMac_38
- Track 47 : LiyuLake_38
- Track 48 : Whirlwind_39
- Track 49 : Krypton555_38
- Track 50 : DuncansLeg_38
- Track 51 : Finnry_38
- Track 52 : KirDoubleO7_36
- Track 53 : BourbonZero_37
- Track 54 : Ellson_38
- Track 55 : Lolly9_38
- Track 56 : PYPDinur_37, Douzhi_37, BrainDrainer_38, Sheng711_38
- Track 57 : DyoEdafos_39
- Track 58 : Bromden_39
- Track 59 : FarmResident_38
- Track 60 : Kropertea_37
- Track 61 : Quby_38
- Track 62 : Douge_37, Chaser_37
- Track 63 : Aegeus_43, Baudelaire_43

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

The start number called the most often in the published annotations is 28, it was called in 27 of the 106 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archie_40, Baoshan_39, Bazzle_40, BigCheese_40, BobsGarage_40, Breezona_40, Claus_41, Crossroads_40, DHan_41, DanBing_40, DrSeegs_40, Faith1_40, Finemlucis_40, Gabriela_40, Gardann_40, GuuelaD_40, Hafay_40, Kahlid_40, Lewan_40, LilDestine_40, Loadrie_40, Miley16_40, MkaliMitinis3_40, Netyap_40, Nicholasp3_40, Rossetti_40, Rumpelstiltskin_40, Sarshaun_40, SoJulia_41, Soap141_40, Tourach_40, Underpass_40, Vetrix_40, Wigglewiggles_40, Wilder_40, Winky_40, Zakai_40, ZhongYanYuan_39,

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

- Acquire49_38, Appletree2_37, AvadaKedavra_38, Calm_38, CicholasNage_38, DirkDirk_37, Enceladus_37, Halena_37, JoeDirt_37, LeBron_38, MAckerman_38, OhShagHennessy_37, Poochiewood_37, Rose5_37, Silverleaf_37, Tyson_37, UPIE_38, Wamburgxpress_38, Wyatt2_38, Zaria_38,

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

- Aegeus_43, Agent47_42, AlleyCat_42, Applecrisp_45, Baudelaire_43, Bellis_38, Bobquesha_49, Boilgate_42, BourbonZero_37, BrainDrainer_38, Bromden_39, Chaser_37, Chavito_46, Clautastrophe_38, Collard_41, Dadosky_42, Douge_37, Douzhi_37, DuncansLeg_38, DyoEdafos_39, Edugator_41, Ellie_41, Ellson_38, FarmResident_38, Fefferhead_43, Feyre_41, Finnry_38, Gengar_41, Guillsminger_42, Heftyboy_41, Hurricane_46, InvictusManeo_41, JF1_47, Jobypre_38, Jubie_38, Kingsolomon_38, KirDoubleO7_36, Kratio_40, Kraw_49, Kropertea_37, Krypton555_38, Larva_42, Lebo14_49, Leston_41, LiyuLake_38, Lolly9_38, Lumos_38, Marshawn_46, MiniLon_38, MiniMac_38, Miryou_43, Moostard_38, MsGreen_38, Neighly_42, Nergal_40, Nicholas_38, Niklas_45, OkiRoe_41, OmniCritical_46, Omnicron_44, PYPDinur_37, Paola_41, Patt_44, Peanam_45, Phrappuccino_40, Psycho_42, Quby_38, Rando14_43, Red305_38, Settecandela_40, Shaobing_45, Sheng711_38, Snenia_38, SoSeph_41, TClif_47, Thyatira_43, TriFive_38, Validus_47, ViviJ_41, Waterfoul_42, Whirlwind_39,

Summary by start number:

Start 10:

- Found in 2 of 139 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Whirlwind_39 (L3),

Start 20:

- Found in 54 of 139 (38.8%) of genes in pham
- Manual Annotations of this start: 7 of 106
- Called 14.8% of time when present
- Phage (with cluster) where this start called: Bromden_39 (L4), DuncansLeg_38 (L3), Ellson_38 (L3), Finnry_38 (L3), JoeDirt_37 (L1), LeBron_38 (L1), MiniMac_38 (L3), UPIE_38 (L1),

Start 21:

- Found in 3 of 139 (2.2%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Hurricane_46 (K3),

Start 23:

- Found in 51 of 139 (36.7%) of genes in pham
- Manual Annotations of this start: 19 of 106
- Called 41.2% of time when present
- Phage (with cluster) where this start called: Acquire49_38 (L1), Appletree2_37 (L1), AvadaKedavra_38 (L1), Calm_38 (L1), CicholasNage_38 (L1), DirkDirk_37 (L1), Enceladus_37 (L1), Halena_37 (L1), Kingsolomon_38 (L3), LiyuLake_38 (L3), Lumos_38 (L3), MAckerman_38 (L1), MiniLon_38 (L3), OhShagHennessy_37 (L1), Poochiewood_37 (L1), Rose5_37 (L1), Silverleaf_37 (L1), Tyson_37 (L1), Wamburgxpress_38 (L1), Wyatt2_38 (L1), Zaria_38 (L1),

Start 27:

- Found in 1 of 139 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TClif_47 (K6),

Start 28:

- Found in 58 of 139 (41.7%) of genes in pham
- Manual Annotations of this start: 27 of 106
- Called 65.5% of time when present
- Phage (with cluster) where this start called: Archie_40 (L2), Baoshan_39 (L2), Bazzle_40 (L2), BigCheese_40 (L2), BobsGarage_40 (L2), Breezona_40 (L2), Claus_41 (L2), Crossroads_40 (L2), DHan_41 (L2), DanBing_40 (L2), DrSeegs_40 (L2), Faith1_40 (L2), Finemlucis_40 (L2), Gabriela_40 (L2), Gardann_40 (L2), GuuelaD_40 (L2), Hafay_40 (L2), Kahlid_40 (L2), Lewan_40 (L2), LilDestine_40 (L2), Loadrie_40 (L2), Miley16_40 (L2), MkaliMitinis3_40 (L2), Netyap_40 (L2), Nicholasp3_40 (L2), Rossetti_40 (L2), Rumpelstiltskin_40 (L2), Sarshaun_40 (L2), SoJulia_41 (L2), Soap141_40 (L2), Tourach_40 (L2), Underpass_40 (L2), Vetrix_40 (L2), Wigglewiggles_40 (L2), Wilder_40 (L2), Winky_40 (L2), Zakai_40 (L2), ZhongYanYuan_39 (L2),

Start 29:

- Found in 5 of 139 (3.6%) of genes in pham
- Manual Annotations of this start: 4 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chavito_46 (K1), Niklas_45 (K1), Peanam_45 (K1), Shaobing_45 (K1), Validus_47 (K1),

Start 31:

- Found in 2 of 139 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Waterfoul_42 (K5),

Start 32:

- Found in 12 of 139 (8.6%) of genes in pham
- Manual Annotations of this start: 8 of 106
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Agent47_42 (K5), AlleyCat_42 (K5), Collard_41 (K5), Dadosky_42 (K5), InvictusManeo_41 (K5), Kratio_40 (K5), Larva_42 (K5), Marshawn_46 (K6),

Start 33:

- Found in 1 of 139 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nergal_40 (AG),

Start 34:

- Found in 102 of 139 (73.4%) of genes in pham
- Manual Annotations of this start: 18 of 106
- Called 28.4% of time when present

- Phage (with cluster) where this start called: Aegeus_43 (L5), Baudelaire_43 (L5), Bellis_38 (L3), Boilgate_42 (K8), BourbonZero_37 (L3), BrainDrainer_38 (L4), Chaser_37 (L4), Clautastrophe_38 (L3), Douge_37 (L4), Douzhi_37 (L4), DyoEdafos_39 (L4), Jobypre_38 (L3), Jubie_38 (L3), KirDoubleO7_36 (L3), Kropertea_37 (L4), Krypton555_38 (L3), Lolly9_38 (L3), Moostard_38 (L3), MsGreen_38 (L3), Nicholas_38 (L3), OmniCritical_46 (K4), PYPDinur_37 (L4), Phrappuccino_40 (AA), Quby_38 (L4), Red305_38 (L3), Settecandela_40 (AA), Sheng711_38 (L4), Snenia_38 (L3), TriFive_38 (L3),

Start 35:

- Found in 24 of 139 (17.3%) of genes in pham
- Manual Annotations of this start: 11 of 106
- Called 54.2% of time when present
- Phage (with cluster) where this start called: Edugator_41 (K5), Gengar_41 (K5), Guillsminger_42 (K5), Heftyboy_41 (K5), Miryou_43 (K5), Neighly_42 (K3), OkiRoe_41 (K5), Omnicron_44 (K5), Paola_41 (K5), Rando14_43 (K5), SoSeph_41 (K5), Thyatira_43 (K5), ViviJ_41 (K5),

Start 36:

- Found in 3 of 139 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 106
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Applecrisp_45 (K6), Ellie_41 (K6), Fefferhead_43 (K6),

Start 38:

- Found in 30 of 139 (21.6%) of genes in pham
- No Manual Annotations of this start.
- Called 3.3% of time when present
- Phage (with cluster) where this start called: FarmResident_38 (L4),

Start 39:

- Found in 26 of 139 (18.7%) of genes in pham
- Manual Annotations of this start: 2 of 106
- Called 15.4% of time when present
- Phage (with cluster) where this start called: Bobquesha_49 (K4), JF1_47 (K4), Kraw_49 (K4), Patt_44 (K4),

Start 42:

- Found in 28 of 139 (20.1%) of genes in pham
- Manual Annotations of this start: 3 of 106
- Called 10.7% of time when present
- Phage (with cluster) where this start called: Feyre_41 (K5), Leston_41 (K5), Psycho_42 (K5),

Start 49:

- Found in 8 of 139 (5.8%) of genes in pham
- No Manual Annotations of this start.
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Lebo14_49 (K4),

Summary by clusters:

There are 13 clusters represented in this pham: AA, AG, L1, K1, K3, L4, L5, L2, L3, K5, K4, K8, K6,

Info for manual annotations of cluster AA:

- Start number 34 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster AG:

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

Info for manual annotations of cluster K1:

- Start number 29 was manually annotated 4 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 21 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K4:

- Start number 34 was manually annotated 1 time for cluster K4.
- Start number 39 was manually annotated 2 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 31 was manually annotated 1 time for cluster K5.
- Start number 32 was manually annotated 7 times for cluster K5.
- Start number 35 was manually annotated 11 times for cluster K5.
- Start number 42 was manually annotated 3 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 27 was manually annotated 1 time for cluster K6.
- Start number 32 was manually annotated 1 time for cluster K6.
- Start number 36 was manually annotated 2 times for cluster K6.

Info for manual annotations of cluster K8:

- Start number 34 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster L1:

- Start number 20 was manually annotated 3 times for cluster L1.
- Start number 23 was manually annotated 16 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 28 was manually annotated 27 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 10 was manually annotated 1 time for cluster L3.
- Start number 20 was manually annotated 3 times for cluster L3.
- Start number 23 was manually annotated 3 times for cluster L3.
- Start number 34 was manually annotated 9 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 20 was manually annotated 1 time for cluster L4.
- Start number 34 was manually annotated 3 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 34 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Acquire49_38 Start: 32935, Stop: 32525, Start Num: 23

Candidate Starts for Acquire49_38:

(Start: 20 @32941 has 7 MA's), (Start: 23 @32935 has 19 MA's), (26, 32917), (Start: 28 @32914 has 27 MA's), (Start: 34 @32905 has 18 MA's), (37, 32872), (51, 32806), (54, 32767), (58, 32743), (65, 32698), (67, 32683), (84, 32590),

Gene: Aegeus_43 Start: 36657, Stop: 36304, Start Num: 34

Candidate Starts for Aegeus_43:

(Start: 34 @36657 has 18 MA's), (Start: 39 @36621 has 2 MA's), (44, 36594), (49, 36570), (77, 36384), (84, 36357),

Gene: Agent47_42 Start: 34530, Stop: 34129, Start Num: 32

Candidate Starts for Agent47_42:

(Start: 32 @34530 has 8 MA's), (Start: 35 @34524 has 11 MA's), (Start: 39 @34485 has 2 MA's), (Start: 42 @34473 has 3 MA's), (46, 34446), (60, 34344), (62, 34332), (68, 34281), (79, 34221),

Gene: AlleyCat_42 Start: 34384, Stop: 33980, Start Num: 32

Candidate Starts for AlleyCat_42:

(Start: 32 @34384 has 8 MA's), (Start: 35 @34378 has 11 MA's), (Start: 39 @34339 has 2 MA's), (Start: 42 @34327 has 3 MA's), (46, 34300), (62, 34186), (68, 34135), (79, 34075), (94, 33985),

Gene: Applecrisp_45 Start: 35470, Stop: 35078, Start Num: 36

Candidate Starts for Applecrisp_45:

(Start: 36 @35470 has 2 MA's), (Start: 39 @35440 has 2 MA's), (43, 35413), (51, 35380), (52, 35359), (53, 35353), (58, 35317), (61, 35299), (68, 35242), (79, 35170), (91, 35104), (94, 35083),

Gene: Appletree2_37 Start: 32877, Stop: 32467, Start Num: 23

Candidate Starts for Appletree2_37:

(Start: 20 @32883 has 7 MA's), (Start: 23 @32877 has 19 MA's), (Start: 28 @32856 has 27 MA's), (Start: 34 @32847 has 18 MA's), (37, 32814), (51, 32748), (54, 32709), (58, 32685), (65, 32640), (84, 32532),

Gene: Archie_40 Start: 34485, Stop: 34096, Start Num: 28

Candidate Starts for Archie_40:

(Start: 23 @34506 has 19 MA's), (Start: 28 @34485 has 27 MA's), (Start: 34 @34476 has 18 MA's), (Start: 39 @34440 has 2 MA's), (40, 34437), (46, 34407), (54, 34341), (58, 34317), (65, 34272), (80, 34185), (81, 34173), (84, 34161),

Gene: AvadaKedavra_38 Start: 32944, Stop: 32534, Start Num: 23

Candidate Starts for AvadaKedavra_38:

(Start: 20 @32950 has 7 MA's), (Start: 23 @32944 has 19 MA's), (26, 32926), (Start: 28 @32923 has 27 MA's), (Start: 34 @32914 has 18 MA's), (37, 32881), (51, 32815), (54, 32776), (58, 32752), (65, 32707), (67, 32692), (84, 32599),

Gene: Baoshan_39 Start: 34142, Stop: 33753, Start Num: 28

Candidate Starts for Baoshan_39:

(Start: 28 @34142 has 27 MA's), (Start: 34 @34133 has 18 MA's), (40, 34094), (46, 34064), (54, 33998), (58, 33974), (65, 33929), (75, 33857), (80, 33842), (81, 33830), (84, 33818),

Gene: Baudelaire_43 Start: 36657, Stop: 36304, Start Num: 34

Candidate Starts for Baudelaire_43:

(Start: 34 @36657 has 18 MA's), (Start: 39 @36621 has 2 MA's), (44, 36594), (49, 36570), (77, 36384), (84, 36357),

Gene: Bazzle_40 Start: 34517, Stop: 34128, Start Num: 28

Candidate Starts for Bazzle_40:

(Start: 23 @34538 has 19 MA's), (Start: 28 @34517 has 27 MA's), (Start: 34 @34508 has 18 MA's), (Start: 39 @34472 has 2 MA's), (40, 34469), (46, 34439), (54, 34373), (58, 34349), (65, 34304), (80, 34217), (81, 34205), (84, 34193),

Gene: Bellis_38 Start: 34518, Stop: 34135, Start Num: 34

Candidate Starts for Bellis_38:

(1, 34737), (2, 34731), (3, 34710), (4, 34689), (Start: 20 @34554 has 7 MA's), (Start: 23 @34548 has 19 MA's), (Start: 34 @34518 has 18 MA's), (38, 34482), (40, 34476), (44, 34452), (46, 34446), (51, 34419), (54, 34380), (56, 34368), (58, 34356), (63, 34323), (65, 34311), (71, 34254), (83, 34203), (94, 34140),

Gene: BigCheese_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for BigCheese_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: Bobquesha_49 Start: 35368, Stop: 35057, Start Num: 39

Candidate Starts for Bobquesha_49:

(14, 35482), (Start: 23 @35437 has 19 MA's), (30, 35413), (Start: 34 @35407 has 18 MA's), (Start: 39 @35368 has 2 MA's), (49, 35317), (61, 35227), (64, 35206), (66, 35188),

Gene: BobsGarage_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for BobsGarage_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: Boilgate_42 Start: 36179, Stop: 35817, Start Num: 34

Candidate Starts for Boilgate_42:

(6, 36305), (7, 36296), (12, 36266), (13, 36263), (14, 36254), (17, 36230), (19, 36215), (Start: 23 @36209 has 19 MA's), (25, 36197), (Start: 34 @36179 has 18 MA's), (Start: 39 @36140 has 2 MA's), (64, 35978),

Gene: BourbonZero_37 Start: 34497, Stop: 34114, Start Num: 34

Candidate Starts for BourbonZero_37:

(1, 34716), (2, 34710), (3, 34689), (4, 34668), (Start: 20 @34533 has 7 MA's), (Start: 23 @34527 has 19 MA's), (Start: 34 @34497 has 18 MA's), (38, 34461), (40, 34455), (46, 34425), (51, 34398), (54, 34359), (56, 34347), (58, 34335), (63, 34302), (65, 34290), (83, 34182), (94, 34119),

Gene: BrainDrainer_38 Start: 33181, Stop: 32801, Start Num: 34

Candidate Starts for BrainDrainer_38:

(Start: 20 @33217 has 7 MA's), (Start: 34 @33181 has 18 MA's), (38, 33148), (44, 33118), (46, 33112), (51, 33085), (54, 33046), (59, 33016), (65, 32977), (76, 32899), (82, 32872), (83, 32866),

Gene: Breezona_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for Breezona_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: Bromden_39 Start: 33770, Stop: 33351, Start Num: 20

Candidate Starts for Bromden_39:

(1, 33953), (2, 33947), (5, 33869), (Start: 20 @33770 has 7 MA's), (Start: 34 @33734 has 18 MA's), (40, 33698), (Start: 42 @33689 has 3 MA's), (46, 33668), (47, 33659), (51, 33641), (58, 33578), (59, 33572), (63, 33545), (65, 33533), (68, 33503), (77, 33449), (82, 33425), (83, 33419),

Gene: Calm_38 Start: 32950, Stop: 32540, Start Num: 23

Candidate Starts for Calm_38:

(Start: 20 @32956 has 7 MA's), (Start: 23 @32950 has 19 MA's), (26, 32932), (Start: 28 @32929 has 27 MA's), (Start: 34 @32920 has 18 MA's), (37, 32887), (51, 32821), (54, 32782), (58, 32758), (65, 32713), (67, 32698), (84, 32605),

Gene: Chaser_37 Start: 32998, Stop: 32618, Start Num: 34

Candidate Starts for Chaser_37:

(Start: 20 @33034 has 7 MA's), (Start: 34 @32998 has 18 MA's), (38, 32965), (44, 32935), (46, 32929), (51, 32902), (54, 32863), (59, 32833), (65, 32794), (82, 32689), (83, 32683),

Gene: Chavito_46 Start: 36294, Stop: 35896, Start Num: 29

Candidate Starts for Chavito_46:

(Start: 29 @36294 has 4 MA's), (51, 36195), (68, 36057), (79, 35991), (83, 35964), (89, 35940), (93, 35907),

Gene: CicholasNage_38 Start: 32971, Stop: 32561, Start Num: 23

Candidate Starts for CicholasNage_38:

(Start: 20 @32977 has 7 MA's), (Start: 23 @32971 has 19 MA's), (26, 32953), (Start: 28 @32950 has 27 MA's), (Start: 34 @32941 has 18 MA's), (37, 32908), (51, 32842), (54, 32803), (58, 32779), (65, 32734), (67, 32719), (84, 32626),

Gene: Claus_41 Start: 34300, Stop: 33911, Start Num: 28

Candidate Starts for Claus_41:

(Start: 28 @34300 has 27 MA's), (Start: 34 @34291 has 18 MA's), (40, 34252), (46, 34222), (54, 34156), (58, 34132), (65, 34087), (75, 34015), (80, 34000), (81, 33988), (84, 33976),

Gene: Clautastrophe_38 Start: 34516, Stop: 34133, Start Num: 34

Candidate Starts for Clautastrophe_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94, 34138),

Gene: Collard_41 Start: 34491, Stop: 34090, Start Num: 32

Candidate Starts for Collard_41:

(Start: 32 @34491 has 8 MA's), (Start: 35 @34485 has 11 MA's), (Start: 39 @34446 has 2 MA's), (Start: 42 @34434 has 3 MA's), (46, 34407), (60, 34305), (62, 34293), (68, 34242), (79, 34182),

Gene: Crossroads_40 Start: 34282, Stop: 33893, Start Num: 28

Candidate Starts for Crossroads_40:

(Start: 28 @34282 has 27 MA's), (Start: 34 @34273 has 18 MA's), (40, 34234), (44, 34210), (46, 34204), (54, 34138), (58, 34114), (65, 34069), (78, 33988), (80, 33982), (81, 33970), (84, 33958),

Gene: DHan_41 Start: 34241, Stop: 33852, Start Num: 28

Candidate Starts for DHan_41:

(Start: 28 @34241 has 27 MA's), (Start: 34 @34232 has 18 MA's), (40, 34193), (46, 34163), (54, 34097), (58, 34073), (65, 34028), (75, 33956), (80, 33941), (81, 33929), (84, 33917),

Gene: Dadosky_42 Start: 34386, Stop: 33982, Start Num: 32

Candidate Starts for Dadosky_42:

(Start: 32 @34386 has 8 MA's), (Start: 35 @34380 has 11 MA's), (Start: 39 @34341 has 2 MA's), (Start: 42 @34329 has 3 MA's), (46, 34302), (62, 34188), (68, 34137), (79, 34077), (94, 33987),

Gene: DanBing_40 Start: 34133, Stop: 33744, Start Num: 28

Candidate Starts for DanBing_40:

(Start: 28 @34133 has 27 MA's), (Start: 34 @34124 has 18 MA's), (40, 34085), (46, 34055), (54, 33989), (58, 33965), (65, 33920), (75, 33848), (80, 33833), (81, 33821), (84, 33809),

Gene: DirkDirk_37 Start: 32937, Stop: 32527, Start Num: 23

Candidate Starts for DirkDirk_37:

(Start: 20 @32943 has 7 MA's), (Start: 23 @32937 has 19 MA's), (Start: 28 @32916 has 27 MA's), (Start: 34 @32907 has 18 MA's), (37, 32874), (51, 32808), (54, 32769), (58, 32745), (65, 32700), (84, 32592),

Gene: Douge_37 Start: 32936, Stop: 32556, Start Num: 34

Candidate Starts for Douge_37:

(Start: 20 @32972 has 7 MA's), (Start: 34 @32936 has 18 MA's), (38, 32903), (44, 32873), (46, 32867), (51, 32840), (54, 32801), (59, 32771), (65, 32732), (82, 32627), (83, 32621),

Gene: Douzhi_37 Start: 33042, Stop: 32662, Start Num: 34

Candidate Starts for Douzhi_37:

(Start: 20 @33078 has 7 MA's), (Start: 34 @33042 has 18 MA's), (38, 33009), (44, 32979), (46, 32973), (51, 32946), (54, 32907), (59, 32877), (65, 32838), (76, 32760), (82, 32733), (83, 32727),

Gene: DrSeegs_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for DrSeegs_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: DuncansLeg_38 Start: 34570, Stop: 34151, Start Num: 20

Candidate Starts for DuncansLeg_38:

(1, 34753), (2, 34747), (3, 34726), (4, 34705), (Start: 20 @34570 has 7 MA's), (Start: 23 @34564 has 19 MA's), (Start: 34 @34534 has 18 MA's), (38, 34498), (40, 34492), (46, 34462), (51, 34435), (54, 34396), (56, 34384), (58, 34372), (63, 34339), (65, 34327), (71, 34270), (83, 34219), (94, 34156),

Gene: DyoEdafos_39 Start: 33270, Stop: 32890, Start Num: 34

Candidate Starts for DyoEdafos_39:

(Start: 20 @33306 has 7 MA's), (Start: 34 @33270 has 18 MA's), (38, 33237), (46, 33201), (51, 33174), (54, 33135), (58, 33111), (82, 32961), (83, 32955), (88, 32931),

Gene: Edugator_41 Start: 34805, Stop: 34407, Start Num: 35

Candidate Starts for Edugator_41:

(Start: 32 @34811 has 8 MA's), (Start: 35 @34805 has 11 MA's), (Start: 39 @34766 has 2 MA's), (Start: 42 @34754 has 3 MA's), (46, 34727), (62, 34613), (68, 34562), (79, 34502), (94, 34412),

Gene: Ellie_41 Start: 35161, Stop: 34769, Start Num: 36

Candidate Starts for Ellie_41:

(8, 35278), (Start: 36 @35161 has 2 MA's), (Start: 39 @35131 has 2 MA's), (51, 35071), (52, 35050), (53, 35044), (58, 35008), (61, 34990), (68, 34933), (79, 34861), (91, 34795), (94, 34774),

Gene: Ellson_38 Start: 34546, Stop: 34127, Start Num: 20

Candidate Starts for Ellson_38:

(1, 34729), (2, 34723), (3, 34702), (4, 34681), (Start: 20 @34546 has 7 MA's), (Start: 23 @34540 has 19 MA's), (Start: 34 @34510 has 18 MA's), (38, 34474), (40, 34468), (46, 34438), (51, 34411), (54, 34372), (56, 34360), (58, 34348), (63, 34315), (65, 34303), (83, 34195), (94, 34132),

Gene: Enceladus_37 Start: 32920, Stop: 32510, Start Num: 23

Candidate Starts for Enceladus_37:

(Start: 20 @32926 has 7 MA's), (Start: 23 @32920 has 19 MA's), (Start: 28 @32899 has 27 MA's), (Start: 34 @32890 has 18 MA's), (37, 32857), (51, 32791), (54, 32752), (58, 32728), (65, 32683), (84, 32575),

Gene: Faith1_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for Faith1_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: FarmResident_38 Start: 32947, Stop: 32600, Start Num: 38

Candidate Starts for FarmResident_38:

(Start: 20 @33016 has 7 MA's), (Start: 34 @32980 has 18 MA's), (38, 32947), (44, 32917), (46, 32911), (51, 32884), (54, 32845), (59, 32815), (82, 32671), (83, 32665),

Gene: Fefferhead_43 Start: 35112, Stop: 34720, Start Num: 36

Candidate Starts for Fefferhead_43:

(8, 35229), (Start: 36 @35112 has 2 MA's), (Start: 39 @35082 has 2 MA's), (51, 35022), (52, 35001), (53, 34995), (58, 34959), (61, 34941), (68, 34884), (79, 34812), (91, 34746), (94, 34725),

Gene: Feyre_41 Start: 34186, Stop: 33836, Start Num: 42

Candidate Starts for Feyre_41:

(Start: 42 @34186 has 3 MA's), (62, 34045), (68, 33994), (79, 33934),

Gene: Finemlucis_40 Start: 34556, Stop: 34167, Start Num: 28

Candidate Starts for Finemlucis_40:

(Start: 28 @34556 has 27 MA's), (Start: 34 @34547 has 18 MA's), (40, 34508), (44, 34484), (46, 34478), (51, 34451), (54, 34412), (58, 34388), (65, 34343), (80, 34256), (81, 34244), (84, 34232),

Gene: Finnry_38 Start: 34555, Stop: 34136, Start Num: 20

Candidate Starts for Finnry_38:

(1, 34738), (2, 34732), (3, 34711), (4, 34690), (Start: 20 @34555 has 7 MA's), (Start: 23 @34549 has 19 MA's), (Start: 34 @34519 has 18 MA's), (38, 34483), (40, 34477), (44, 34453), (46, 34447), (51, 34420), (54, 34381), (56, 34369), (58, 34357), (63, 34324), (65, 34312), (71, 34255), (83, 34204), (94, 34141),

Gene: Gabriela_40 Start: 34542, Stop: 34153, Start Num: 28

Candidate Starts for Gabriela_40:

(Start: 28 @34542 has 27 MA's), (Start: 34 @34533 has 18 MA's), (40, 34494), (44, 34470), (46, 34464), (51, 34437), (54, 34398), (58, 34374), (65, 34329), (80, 34242), (84, 34218),

Gene: Gardann_40 Start: 34281, Stop: 33892, Start Num: 28

Candidate Starts for Gardann_40:

(Start: 28 @34281 has 27 MA's), (Start: 34 @34272 has 18 MA's), (40, 34233), (44, 34209), (46, 34203), (51, 34176), (54, 34137), (58, 34113), (65, 34068), (80, 33981), (81, 33969), (84, 33957),

Gene: Gengar_41 Start: 34347, Stop: 33946, Start Num: 35

Candidate Starts for Gengar_41:

(Start: 35 @34347 has 11 MA's), (Start: 42 @34296 has 3 MA's), (62, 34155), (68, 34104), (79, 34044),

Gene: Guillsminger_42 Start: 34318, Stop: 33917, Start Num: 35

Candidate Starts for Guillsminger_42:

(Start: 35 @34318 has 11 MA's), (Start: 42 @34267 has 3 MA's), (62, 34126), (68, 34075), (79, 34015),

Gene: GuuelaD_40 Start: 34319, Stop: 33930, Start Num: 28

Candidate Starts for GuuelaD_40:

(Start: 28 @34319 has 27 MA's), (Start: 34 @34310 has 18 MA's), (40, 34271), (44, 34247), (46, 34241), (54, 34175), (58, 34151), (65, 34106), (78, 34025), (80, 34019), (81, 34007), (84, 33995),

Gene: Hafay_40 Start: 34314, Stop: 33925, Start Num: 28

Candidate Starts for Hafay_40:

(Start: 28 @34314 has 27 MA's), (Start: 34 @34305 has 18 MA's), (40, 34266), (44, 34242), (46, 34236), (54, 34170), (58, 34146), (65, 34101), (78, 34020), (80, 34014), (81, 34002), (84, 33990),

Gene: Halena_37 Start: 32946, Stop: 32536, Start Num: 23

Candidate Starts for Halena_37:

(Start: 20 @32952 has 7 MA's), (Start: 23 @32946 has 19 MA's), (26, 32928), (Start: 28 @32925 has 27 MA's), (Start: 34 @32916 has 18 MA's), (37, 32883), (51, 32817), (54, 32778), (58, 32754), (65, 32709), (67, 32694), (84, 32601),

Gene: Heftyboy_41 Start: 34467, Stop: 34066, Start Num: 35

Candidate Starts for Heftyboy_41:

(9, 34566), (18, 34515), (Start: 21 @34503 has 1 MA's), (Start: 35 @34467 has 11 MA's), (Start: 42 @34416 has 3 MA's), (62, 34275), (68, 34224), (79, 34164), (87, 34116),

Gene: Hurricane_46 Start: 35646, Stop: 35155, Start Num: 21

Candidate Starts for Hurricane_46:

(Start: 21 @35646 has 1 MA's), (Start: 35 @35613 has 11 MA's), (58, 35457), (66, 35400), (74, 35334), (95, 35226), (97, 35208), (98, 35166),

Gene: InvictusManeo_41 Start: 34534, Stop: 34133, Start Num: 32

Candidate Starts for InvictusManeo_41:

(Start: 32 @34534 has 8 MA's), (Start: 35 @34528 has 11 MA's), (Start: 39 @34489 has 2 MA's), (Start: 42 @34477 has 3 MA's), (46, 34450), (60, 34348), (62, 34336), (68, 34285), (79, 34225),

Gene: JF1_47 Start: 36061, Stop: 35747, Start Num: 39

Candidate Starts for JF1_47:

(Start: 39 @36061 has 2 MA's), (49, 36010), (57, 35941), (61, 35920), (64, 35899), (66, 35881), (90, 35779),

Gene: Jobypre_38 Start: 34516, Stop: 34133, Start Num: 34

Candidate Starts for Jobypre_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94,

34138),

Gene: JoeDirt_37 Start: 32924, Stop: 32508, Start Num: 20

Candidate Starts for JoeDirt_37:

(Start: 20 @32924 has 7 MA's), (Start: 23 @32918 has 19 MA's), (Start: 28 @32897 has 27 MA's), (Start: 34 @32888 has 18 MA's), (37, 32855), (51, 32789), (54, 32750), (58, 32726), (65, 32681), (84, 32573),

Gene: Jubie_38 Start: 34517, Stop: 34134, Start Num: 34

Candidate Starts for Jubie_38:

(1, 34736), (2, 34730), (3, 34709), (4, 34688), (Start: 20 @34553 has 7 MA's), (Start: 23 @34547 has 19 MA's), (Start: 34 @34517 has 18 MA's), (38, 34481), (40, 34475), (44, 34451), (46, 34445), (51, 34418), (54, 34379), (56, 34367), (58, 34355), (63, 34322), (65, 34310), (71, 34253), (83, 34202), (94, 34139),

Gene: Kahlid_40 Start: 34286, Stop: 33897, Start Num: 28

Candidate Starts for Kahlid_40:

(Start: 28 @34286 has 27 MA's), (Start: 34 @34277 has 18 MA's), (40, 34238), (44, 34214), (46, 34208), (54, 34142), (58, 34118), (65, 34073), (78, 33992), (80, 33986), (81, 33974), (84, 33962),

Gene: Kingsolomon_38 Start: 34546, Stop: 34133, Start Num: 23

Candidate Starts for Kingsolomon_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94, 34138),

Gene: KirDoubleO7_36 Start: 34538, Stop: 34158, Start Num: 34

Candidate Starts for KirDoubleO7_36:

(Start: 20 @34574 has 7 MA's), (Start: 23 @34568 has 19 MA's), (Start: 34 @34538 has 18 MA's), (40, 34499), (44, 34475), (46, 34469), (51, 34442), (54, 34403), (56, 34391), (58, 34379), (63, 34346), (65, 34334), (71, 34277), (94, 34163),

Gene: Kratio_40 Start: 34085, Stop: 33681, Start Num: 32

Candidate Starts for Kratio_40:

(Start: 32 @34085 has 8 MA's), (Start: 35 @34079 has 11 MA's), (Start: 39 @34040 has 2 MA's), (Start: 42 @34028 has 3 MA's), (46, 34001), (50, 33980), (60, 33899), (62, 33887), (68, 33836), (79, 33776),

Gene: Kraw_49 Start: 35905, Stop: 35591, Start Num: 39

Candidate Starts for Kraw_49:

(14, 36019), (Start: 23 @35974 has 19 MA's), (30, 35950), (Start: 34 @35944 has 18 MA's), (Start: 39 @35905 has 2 MA's), (49, 35854), (57, 35785), (61, 35764), (64, 35743), (66, 35725), (90, 35623),

Gene: Kropertea_37 Start: 33093, Stop: 32698, Start Num: 34

Candidate Starts for Kropertea_37:

(Start: 20 @33129 has 7 MA's), (Start: 34 @33093 has 18 MA's), (38, 33060), (46, 33009), (51, 32982), (54, 32943), (58, 32919), (82, 32769), (83, 32763), (88, 32739),

Gene: Krypton555_38 Start: 34434, Stop: 34048, Start Num: 34

Candidate Starts for Krypton555_38:

(Start: 10 @34530 has 1 MA's), (16, 34500), (Start: 20 @34470 has 7 MA's), (Start: 23 @34464 has 19 MA's), (Start: 34 @34434 has 18 MA's), (40, 34395), (44, 34371), (46, 34365), (51, 34338), (54,

34299), (56, 34287), (58, 34275), (63, 34242), (83, 34116), (94, 34053),

Gene: Larva_42 Start: 34253, Stop: 33849, Start Num: 32

Candidate Starts for Larva_42:

(Start: 32 @34253 has 8 MA's), (Start: 35 @34247 has 11 MA's), (Start: 39 @34208 has 2 MA's), (Start: 42 @34196 has 3 MA's), (46, 34169), (62, 34055), (68, 34004), (79, 33944), (94, 33854),

Gene: LeBron_38 Start: 32968, Stop: 32552, Start Num: 20

Candidate Starts for LeBron_38:

(Start: 20 @32968 has 7 MA's), (Start: 23 @32962 has 19 MA's), (Start: 28 @32941 has 27 MA's), (Start: 34 @32932 has 18 MA's), (37, 32899), (51, 32833), (54, 32794), (58, 32770), (65, 32725), (84, 32617),

Gene: Lebo14_49 Start: 36120, Stop: 35857, Start Num: 49

Candidate Starts for Lebo14_49:

(14, 36285), (Start: 23 @36240 has 19 MA's), (30, 36216), (Start: 34 @36210 has 18 MA's), (Start: 39 @36171 has 2 MA's), (49, 36120), (57, 36051), (61, 36030), (64, 36009), (66, 35991), (90, 35889),

Gene: Leston_41 Start: 34396, Stop: 34046, Start Num: 42

Candidate Starts for Leston_41:

(Start: 35 @34447 has 11 MA's), (Start: 42 @34396 has 3 MA's), (62, 34255), (68, 34204), (79, 34144),

Gene: Lewan_40 Start: 34274, Stop: 33885, Start Num: 28

Candidate Starts for Lewan_40:

(Start: 28 @34274 has 27 MA's), (Start: 34 @34265 has 18 MA's), (40, 34226), (44, 34202), (46, 34196), (54, 34130), (58, 34106), (65, 34061), (78, 33980), (80, 33974), (81, 33962), (84, 33950),

Gene: LilDestine_40 Start: 34278, Stop: 33889, Start Num: 28

Candidate Starts for LilDestine_40:

(Start: 28 @34278 has 27 MA's), (Start: 34 @34269 has 18 MA's), (40, 34230), (44, 34206), (46, 34200), (51, 34173), (54, 34134), (58, 34110), (65, 34065), (80, 33978), (84, 33954),

Gene: LiyuLake_38 Start: 34530, Stop: 34117, Start Num: 23

Candidate Starts for LiyuLake_38:

(1, 34719), (2, 34713), (3, 34692), (4, 34671), (Start: 20 @34536 has 7 MA's), (Start: 23 @34530 has 19 MA's), (Start: 34 @34500 has 18 MA's), (38, 34464), (40, 34458), (46, 34428), (51, 34401), (54, 34362), (56, 34350), (58, 34338), (63, 34305), (65, 34293), (83, 34185), (94, 34122),

Gene: Loadrie_40 Start: 34312, Stop: 33923, Start Num: 28

Candidate Starts for Loadrie_40:

(Start: 28 @34312 has 27 MA's), (Start: 34 @34303 has 18 MA's), (40, 34264), (44, 34240), (46, 34234), (54, 34168), (58, 34144), (65, 34099), (78, 34018), (80, 34012), (81, 34000), (84, 33988),

Gene: Lolly9_38 Start: 34324, Stop: 33941, Start Num: 34

Candidate Starts for Lolly9_38:

(1, 34543), (2, 34537), (3, 34516), (4, 34495), (Start: 20 @34360 has 7 MA's), (Start: 23 @34354 has 19 MA's), (Start: 34 @34324 has 18 MA's), (38, 34288), (40, 34282), (46, 34252), (51, 34225), (54, 34186), (56, 34174), (58, 34162), (63, 34129), (64, 34123), (65, 34117), (71, 34060), (83, 34009), (94, 33946),

Gene: Lumos_38 Start: 34543, Stop: 34130, Start Num: 23

Candidate Starts for Lumos_38:

(1, 34732), (2, 34726), (3, 34705), (4, 34684), (Start: 20 @34549 has 7 MA's), (Start: 23 @34543 has 19 MA's), (Start: 34 @34513 has 18 MA's), (38, 34477), (40, 34471), (44, 34447), (46, 34441), (51, 34414), (54, 34375), (56, 34363), (58, 34351), (63, 34318), (65, 34306), (71, 34249), (83, 34198), (94, 34135),

Gene: MAckerman_38 Start: 32940, Stop: 32530, Start Num: 23

Candidate Starts for MAckerman_38:

(Start: 20 @32946 has 7 MA's), (Start: 23 @32940 has 19 MA's), (26, 32922), (Start: 28 @32919 has 27 MA's), (Start: 34 @32910 has 18 MA's), (37, 32877), (51, 32811), (54, 32772), (58, 32748), (65, 32703), (67, 32688), (84, 32595),

Gene: Marshawn_46 Start: 35965, Stop: 35570, Start Num: 32

Candidate Starts for Marshawn_46:

(Start: 32 @35965 has 8 MA's), (Start: 42 @35914 has 3 MA's), (51, 35866), (55, 35821), (58, 35803), (68, 35728), (79, 35665), (91, 35599), (94, 35578),

Gene: Miley16_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for Miley16_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: MiniLon_38 Start: 34355, Stop: 33942, Start Num: 23

Candidate Starts for MiniLon_38:

(1, 34544), (2, 34538), (3, 34517), (4, 34496), (Start: 20 @34361 has 7 MA's), (Start: 23 @34355 has 19 MA's), (Start: 34 @34325 has 18 MA's), (38, 34289), (40, 34283), (46, 34253), (51, 34226), (54, 34187), (56, 34175), (58, 34163), (63, 34130), (64, 34124), (65, 34118), (71, 34061), (83, 34010), (94, 33947),

Gene: MiniMac_38 Start: 34358, Stop: 33939, Start Num: 20

Candidate Starts for MiniMac_38:

(Start: 20 @34358 has 7 MA's), (Start: 23 @34352 has 19 MA's), (Start: 34 @34322 has 18 MA's), (38, 34286), (40, 34280), (46, 34250), (51, 34223), (54, 34184), (56, 34172), (58, 34160), (63, 34127), (64, 34121), (65, 34115), (71, 34058), (83, 34007), (94, 33944),

Gene: Miryou_43 Start: 36650, Stop: 36249, Start Num: 35

Candidate Starts for Miryou_43:

(Start: 35 @36650 has 11 MA's), (Start: 42 @36599 has 3 MA's), (62, 36458), (68, 36407), (79, 36347),

Gene: MkaliMitinis3_40 Start: 34282, Stop: 33893, Start Num: 28

Candidate Starts for MkaliMitinis3_40:

(Start: 28 @34282 has 27 MA's), (Start: 34 @34273 has 18 MA's), (40, 34234), (44, 34210), (46, 34204), (54, 34138), (58, 34114), (65, 34069), (78, 33988), (80, 33982), (81, 33970), (84, 33958),

Gene: Moostard_38 Start: 34518, Stop: 34135, Start Num: 34

Candidate Starts for Moostard_38:

(1, 34737), (2, 34731), (3, 34710), (4, 34689), (Start: 20 @34554 has 7 MA's), (Start: 23 @34548 has 19 MA's), (Start: 34 @34518 has 18 MA's), (38, 34482), (40, 34476), (44, 34452), (46, 34446), (51, 34419), (54, 34380), (56, 34368), (58, 34356), (63, 34323), (65, 34311), (71, 34254), (83, 34203), (94, 34140),

Gene: MsGreen_38 Start: 34516, Stop: 34133, Start Num: 34

Candidate Starts for MsGreen_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94, 34138),

Gene: Neighly_42 Start: 34246, Stop: 33848, Start Num: 35

Candidate Starts for Neighly_42:

(Start: 32 @34252 has 8 MA's), (Start: 35 @34246 has 11 MA's), (Start: 39 @34207 has 2 MA's), (Start: 42 @34195 has 3 MA's), (46, 34168), (62, 34054), (68, 34003), (79, 33943), (94, 33853),

Gene: Nergal_40 Start: 33595, Stop: 33221, Start Num: 33

Candidate Starts for Nergal_40:

(24, 33622), (Start: 33 @33595 has 1 MA's), (Start: 39 @33559 has 2 MA's), (43, 33532), (51, 33499), (58, 33436), (67, 33376), (70, 33340), (91, 33247), (94, 33226),

Gene: Netyap_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for Netyap_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: Nicholas_38 Start: 34516, Stop: 34133, Start Num: 34

Candidate Starts for Nicholas_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94, 34138),

Gene: Nicholasp3_40 Start: 34281, Stop: 33892, Start Num: 28

Candidate Starts for Nicholasp3_40:

(Start: 28 @34281 has 27 MA's), (Start: 34 @34272 has 18 MA's), (40, 34233), (44, 34209), (46, 34203), (51, 34176), (54, 34137), (58, 34113), (65, 34068), (80, 33981), (81, 33969), (84, 33957),

Gene: Niklas_45 Start: 35707, Stop: 35315, Start Num: 29

Candidate Starts for Niklas_45:

(Start: 29 @35707 has 4 MA's), (48, 35623), (51, 35608), (69, 35446), (83, 35383), (89, 35359), (93, 35326),

Gene: OhShagHennessy_37 Start: 32908, Stop: 32498, Start Num: 23

Candidate Starts for OhShagHennessy_37:

(Start: 20 @32914 has 7 MA's), (Start: 23 @32908 has 19 MA's), (Start: 28 @32887 has 27 MA's), (Start: 34 @32878 has 18 MA's), (37, 32845), (51, 32779), (54, 32740), (58, 32716), (65, 32671), (84, 32563),

Gene: OkiRoe_41 Start: 34320, Stop: 33919, Start Num: 35

Candidate Starts for OkiRoe_41:

(Start: 35 @34320 has 11 MA's), (Start: 42 @34269 has 3 MA's), (62, 34128), (68, 34077), (79, 34017),

Gene: OmniCritical_46 Start: 35929, Stop: 35576, Start Num: 34

Candidate Starts for OmniCritical_46:

(14, 36004), (Start: 23 @35959 has 19 MA's), (30, 35935), (Start: 34 @35929 has 18 MA's), (Start: 39 @35890 has 2 MA's), (49, 35839), (57, 35770), (61, 35749), (64, 35728), (66, 35710), (90, 35608),

Gene: Omnicron_44 Start: 33930, Stop: 33529, Start Num: 35

Candidate Starts for Omnicron_44:

(Start: 35 @33930 has 11 MA's), (Start: 42 @33879 has 3 MA's), (46, 33852), (60, 33750), (62, 33738), (68, 33687), (79, 33627),

Gene: PYPDinur_37 Start: 33042, Stop: 32662, Start Num: 34

Candidate Starts for PYPDinur_37:

(Start: 20 @33078 has 7 MA's), (Start: 34 @33042 has 18 MA's), (38, 33009), (44, 32979), (46, 32973), (51, 32946), (54, 32907), (59, 32877), (65, 32838), (76, 32760), (82, 32733), (83, 32727),

Gene: Paola_41 Start: 34318, Stop: 33917, Start Num: 35

Candidate Starts for Paola_41:

(Start: 35 @34318 has 11 MA's), (Start: 42 @34267 has 3 MA's), (62, 34126), (68, 34075), (79, 34015),

Gene: Patt_44 Start: 35104, Stop: 34793, Start Num: 39

Candidate Starts for Patt_44:

(13, 35227), (14, 35218), (15, 35215), (16, 35209), (17, 35194), (22, 35176), (Start: 23 @35173 has 19 MA's), (30, 35149), (Start: 34 @35143 has 18 MA's), (Start: 39 @35104 has 2 MA's), (49, 35053), (61, 34963), (64, 34942), (66, 34924),

Gene: Peanam_45 Start: 35664, Stop: 35272, Start Num: 29

Candidate Starts for Peanam_45:

(Start: 29 @35664 has 4 MA's), (48, 35580), (51, 35565), (83, 35340), (89, 35316), (93, 35283),

Gene: Phrappuccino_40 Start: 22957, Stop: 22583, Start Num: 34

Candidate Starts for Phrappuccino_40:

(Start: 34 @22957 has 18 MA's), (Start: 42 @22906 has 3 MA's), (45, 22888), (65, 22750), (90, 22618), (91, 22612),

Gene: Pochiewood_37 Start: 32936, Stop: 32526, Start Num: 23

Candidate Starts for Pochiewood_37:

(Start: 20 @32942 has 7 MA's), (Start: 23 @32936 has 19 MA's), (Start: 28 @32915 has 27 MA's), (Start: 34 @32906 has 18 MA's), (37, 32873), (51, 32807), (54, 32768), (58, 32744), (65, 32699), (84, 32591),

Gene: Psycho_42 Start: 34326, Stop: 33979, Start Num: 42

Candidate Starts for Psycho_42:

(Start: 32 @34383 has 8 MA's), (Start: 35 @34377 has 11 MA's), (Start: 39 @34338 has 2 MA's), (Start: 42 @34326 has 3 MA's), (46, 34299), (62, 34185), (68, 34134), (79, 34074), (94, 33984),

Gene: Quby_38 Start: 32936, Stop: 32556, Start Num: 34

Candidate Starts for Quby_38:

(Start: 20 @32972 has 7 MA's), (Start: 34 @32936 has 18 MA's), (38, 32903), (44, 32873), (46, 32867), (51, 32840), (54, 32801), (59, 32771), (65, 32732), (72, 32672), (82, 32627), (83, 32621),

Gene: Rando14_43 Start: 33501, Stop: 33097, Start Num: 35

Candidate Starts for Rando14_43:

(Start: 35 @33501 has 11 MA's), (Start: 42 @33447 has 3 MA's), (68, 33255), (79, 33195),

Gene: Red305_38 Start: 34516, Stop: 34133, Start Num: 34

Candidate Starts for Red305_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94,

34138),

Gene: Rose5_37 Start: 32935, Stop: 32525, Start Num: 23

Candidate Starts for Rose5_37:

(Start: 20 @32941 has 7 MA's), (Start: 23 @32935 has 19 MA's), (26, 32917), (Start: 28 @32914 has 27 MA's), (Start: 34 @32905 has 18 MA's), (37, 32872), (51, 32806), (54, 32767), (58, 32743), (65, 32698), (67, 32683), (84, 32590),

Gene: Rossetti_40 Start: 34547, Stop: 34158, Start Num: 28

Candidate Starts for Rossetti_40:

(Start: 28 @34547 has 27 MA's), (Start: 34 @34538 has 18 MA's), (40, 34499), (44, 34475), (46, 34469), (51, 34442), (54, 34403), (58, 34379), (65, 34334), (80, 34247), (81, 34235), (84, 34223),

Gene: Rumpelstiltskin_40 Start: 34547, Stop: 34158, Start Num: 28

Candidate Starts for Rumpelstiltskin_40:

(Start: 28 @34547 has 27 MA's), (Start: 34 @34538 has 18 MA's), (40, 34499), (44, 34475), (46, 34469), (51, 34442), (54, 34403), (58, 34379), (65, 34334), (80, 34247), (84, 34223),

Gene: Sarshaun_40 Start: 34314, Stop: 33925, Start Num: 28

Candidate Starts for Sarshaun_40:

(Start: 28 @34314 has 27 MA's), (Start: 34 @34305 has 18 MA's), (40, 34266), (44, 34242), (46, 34236), (54, 34170), (58, 34146), (65, 34101), (78, 34020), (80, 34014), (81, 34002), (84, 33990),

Gene: Settecandela_40 Start: 22957, Stop: 22583, Start Num: 34

Candidate Starts for Settecandela_40:

(Start: 34 @22957 has 18 MA's), (Start: 42 @22906 has 3 MA's), (45, 22888), (65, 22750), (90, 22618), (91, 22612),

Gene: Shaobing_45 Start: 35682, Stop: 35284, Start Num: 29

Candidate Starts for Shaobing_45:

(Start: 29 @35682 has 4 MA's), (51, 35583), (68, 35445), (79, 35379), (83, 35352), (89, 35328), (93, 35295),

Gene: Sheng711_38 Start: 33042, Stop: 32662, Start Num: 34

Candidate Starts for Sheng711_38:

(Start: 20 @33078 has 7 MA's), (Start: 34 @33042 has 18 MA's), (38, 33009), (44, 32979), (46, 32973), (51, 32946), (54, 32907), (59, 32877), (65, 32838), (76, 32760), (82, 32733), (83, 32727),

Gene: Silverleaf_37 Start: 32935, Stop: 32525, Start Num: 23

Candidate Starts for Silverleaf_37:

(Start: 20 @32941 has 7 MA's), (Start: 23 @32935 has 19 MA's), (26, 32917), (Start: 28 @32914 has 27 MA's), (Start: 34 @32905 has 18 MA's), (37, 32872), (51, 32806), (54, 32767), (58, 32743), (65, 32698), (67, 32683), (84, 32590),

Gene: Snenia_38 Start: 34517, Stop: 34134, Start Num: 34

Candidate Starts for Snenia_38:

(1, 34736), (2, 34730), (3, 34709), (4, 34688), (Start: 20 @34553 has 7 MA's), (Start: 23 @34547 has 19 MA's), (Start: 34 @34517 has 18 MA's), (38, 34481), (40, 34475), (44, 34451), (46, 34445), (51, 34418), (54, 34379), (56, 34367), (58, 34355), (63, 34322), (65, 34310), (71, 34253), (83, 34202), (94, 34139),

Gene: SoJulia_41 Start: 34540, Stop: 34151, Start Num: 28

Candidate Starts for SoJulia_41:

(Start: 28 @34540 has 27 MA's), (Start: 34 @34531 has 18 MA's), (40, 34492), (44, 34468), (46, 34462), (51, 34435), (54, 34396), (58, 34372), (65, 34327), (80, 34240), (84, 34216),

Gene: SoSeph_41 Start: 34467, Stop: 34066, Start Num: 35

Candidate Starts for SoSeph_41:

(9, 34566), (18, 34515), (Start: 21 @34503 has 1 MA's), (Start: 35 @34467 has 11 MA's), (Start: 42 @34416 has 3 MA's), (62, 34275), (68, 34224), (79, 34164), (87, 34116),

Gene: Soap141_40 Start: 34314, Stop: 33925, Start Num: 28

Candidate Starts for Soap141_40:

(Start: 28 @34314 has 27 MA's), (Start: 34 @34305 has 18 MA's), (40, 34266), (44, 34242), (46, 34236), (54, 34170), (58, 34146), (65, 34101), (78, 34020), (80, 34014), (81, 34002), (84, 33990),

Gene: TClif_47 Start: 36099, Stop: 35698, Start Num: 27

Candidate Starts for TClif_47:

(Start: 27 @36099 has 1 MA's), (41, 36051), (47, 36015), (50, 36003), (51, 35997), (68, 35859), (73, 35814), (79, 35796), (82, 35775), (85, 35763), (92, 35715), (96, 35703),

Gene: Thyatira_43 Start: 36667, Stop: 36266, Start Num: 35

Candidate Starts for Thyatira_43:

(Start: 31 @36673 has 1 MA's), (Start: 35 @36667 has 11 MA's), (Start: 42 @36616 has 3 MA's), (62, 36475), (68, 36424), (79, 36364),

Gene: Tourach_40 Start: 34296, Stop: 33907, Start Num: 28

Candidate Starts for Tourach_40:

(Start: 28 @34296 has 27 MA's), (Start: 34 @34287 has 18 MA's), (40, 34248), (46, 34218), (51, 34191), (54, 34152), (58, 34128), (65, 34083), (80, 33996), (81, 33984), (84, 33972),

Gene: TriFive_38 Start: 34516, Stop: 34133, Start Num: 34

Candidate Starts for TriFive_38:

(1, 34735), (2, 34729), (3, 34708), (4, 34687), (Start: 20 @34552 has 7 MA's), (Start: 23 @34546 has 19 MA's), (Start: 34 @34516 has 18 MA's), (38, 34480), (40, 34474), (44, 34450), (46, 34444), (51, 34417), (54, 34378), (56, 34366), (58, 34354), (63, 34321), (65, 34309), (71, 34252), (83, 34201), (94, 34138),

Gene: Tyson_37 Start: 32936, Stop: 32526, Start Num: 23

Candidate Starts for Tyson_37:

(Start: 20 @32942 has 7 MA's), (Start: 23 @32936 has 19 MA's), (26, 32918), (Start: 28 @32915 has 27 MA's), (Start: 34 @32906 has 18 MA's), (37, 32873), (51, 32807), (54, 32768), (58, 32744), (65, 32699), (67, 32684), (84, 32591),

Gene: UPIE_38 Start: 32940, Stop: 32524, Start Num: 20

Candidate Starts for UPIE_38:

(Start: 20 @32940 has 7 MA's), (Start: 23 @32934 has 19 MA's), (Start: 28 @32913 has 27 MA's), (Start: 34 @32904 has 18 MA's), (37, 32871), (51, 32805), (54, 32766), (58, 32742), (65, 32697), (84, 32589),

Gene: Underpass_40 Start: 34281, Stop: 33892, Start Num: 28

Candidate Starts for Underpass_40:

(Start: 28 @34281 has 27 MA's), (Start: 34 @34272 has 18 MA's), (40, 34233), (44, 34209), (46, 34203), (51, 34176), (54, 34137), (58, 34113), (65, 34068), (80, 33981), (81, 33969), (84, 33957),

Gene: Validus_47 Start: 35733, Stop: 35320, Start Num: 29

Candidate Starts for Validus_47:

(11, 35814), (Start: 29 @35733 has 4 MA's), (48, 35637), (51, 35622), (68, 35484), (79, 35421), (83, 35394), (86, 35376), (96, 35325),

Gene: Vetric_40 Start: 34287, Stop: 33898, Start Num: 28

Candidate Starts for Vetric_40:

(Start: 28 @34287 has 27 MA's), (Start: 34 @34278 has 18 MA's), (40, 34239), (44, 34215), (46, 34209), (51, 34182), (54, 34143), (58, 34119), (65, 34074), (80, 33987), (84, 33963),

Gene: ViviJ_41 Start: 34285, Stop: 33890, Start Num: 35

Candidate Starts for ViviJ_41:

(Start: 32 @34291 has 8 MA's), (Start: 35 @34285 has 11 MA's), (Start: 39 @34246 has 2 MA's), (Start: 42 @34234 has 3 MA's), (46, 34207), (60, 34105), (62, 34093), (68, 34042), (79, 33982),

Gene: Wamburgexpress_38 Start: 32949, Stop: 32539, Start Num: 23

Candidate Starts for Wamburgexpress_38:

(Start: 20 @32955 has 7 MA's), (Start: 23 @32949 has 19 MA's), (Start: 28 @32928 has 27 MA's), (Start: 34 @32919 has 18 MA's), (37, 32886), (51, 32820), (54, 32781), (58, 32757), (65, 32712), (84, 32604),

Gene: Waterfoul_42 Start: 34567, Stop: 34160, Start Num: 31

Candidate Starts for Waterfoul_42:

(Start: 31 @34567 has 1 MA's), (Start: 35 @34561 has 11 MA's), (Start: 42 @34510 has 3 MA's), (68, 34318), (79, 34258), (87, 34210),

Gene: Whirlwind_39 Start: 34372, Stop: 33890, Start Num: 10

Candidate Starts for Whirlwind_39:

(Start: 10 @34372 has 1 MA's), (16, 34342), (Start: 20 @34312 has 7 MA's), (Start: 23 @34306 has 19 MA's), (Start: 34 @34276 has 18 MA's), (40, 34237), (44, 34213), (46, 34207), (51, 34180), (54, 34141), (56, 34129), (58, 34117), (63, 34084), (83, 33958), (94, 33895),

Gene: Wigglewigggle_40 Start: 34313, Stop: 33924, Start Num: 28

Candidate Starts for Wigglewigggle_40:

(Start: 28 @34313 has 27 MA's), (Start: 34 @34304 has 18 MA's), (40, 34265), (44, 34241), (46, 34235), (54, 34169), (58, 34145), (65, 34100), (78, 34019), (80, 34013), (81, 34001), (84, 33989),

Gene: Wilder_40 Start: 34286, Stop: 33897, Start Num: 28

Candidate Starts for Wilder_40:

(Start: 28 @34286 has 27 MA's), (Start: 34 @34277 has 18 MA's), (40, 34238), (44, 34214), (46, 34208), (54, 34142), (58, 34118), (65, 34073), (78, 33992), (80, 33986), (81, 33974), (84, 33962),

Gene: Winky_40 Start: 34280, Stop: 33891, Start Num: 28

Candidate Starts for Winky_40:

(Start: 28 @34280 has 27 MA's), (Start: 34 @34271 has 18 MA's), (40, 34232), (44, 34208), (46, 34202), (51, 34175), (54, 34136), (58, 34112), (65, 34067), (80, 33980), (84, 33956),

Gene: Wyatt2_38 Start: 32935, Stop: 32525, Start Num: 23

Candidate Starts for Wyatt2_38:

(Start: 20 @32941 has 7 MA's), (Start: 23 @32935 has 19 MA's), (26, 32917), (Start: 28 @32914 has 27 MA's), (Start: 34 @32905 has 18 MA's), (37, 32872), (51, 32806), (54, 32767), (58, 32743), (65, 32698), (67, 32683), (84, 32590),

Gene: Zakai_40 Start: 34538, Stop: 34149, Start Num: 28

Candidate Starts for Zakai_40:

(Start: 28 @34538 has 27 MA's), (Start: 34 @34529 has 18 MA's), (40, 34490), (44, 34466), (46, 34460), (54, 34394), (58, 34370), (65, 34325), (78, 34244), (80, 34238), (81, 34226), (84, 34214),

Gene: Zaria_38 Start: 32950, Stop: 32540, Start Num: 23

Candidate Starts for Zaria_38:

(Start: 20 @32956 has 7 MA's), (Start: 23 @32950 has 19 MA's), (26, 32932), (Start: 28 @32929 has 27 MA's), (Start: 34 @32920 has 18 MA's), (37, 32887), (51, 32821), (54, 32782), (58, 32758), (65, 32713), (67, 32698), (84, 32605),

Gene: ZhongYanYuan_39 Start: 34142, Stop: 33753, Start Num: 28

Candidate Starts for ZhongYanYuan_39:

(Start: 28 @34142 has 27 MA's), (Start: 34 @34133 has 18 MA's), (40, 34094), (46, 34064), (54, 33998), (58, 33974), (65, 33929), (75, 33857), (80, 33842), (81, 33830), (84, 33818),