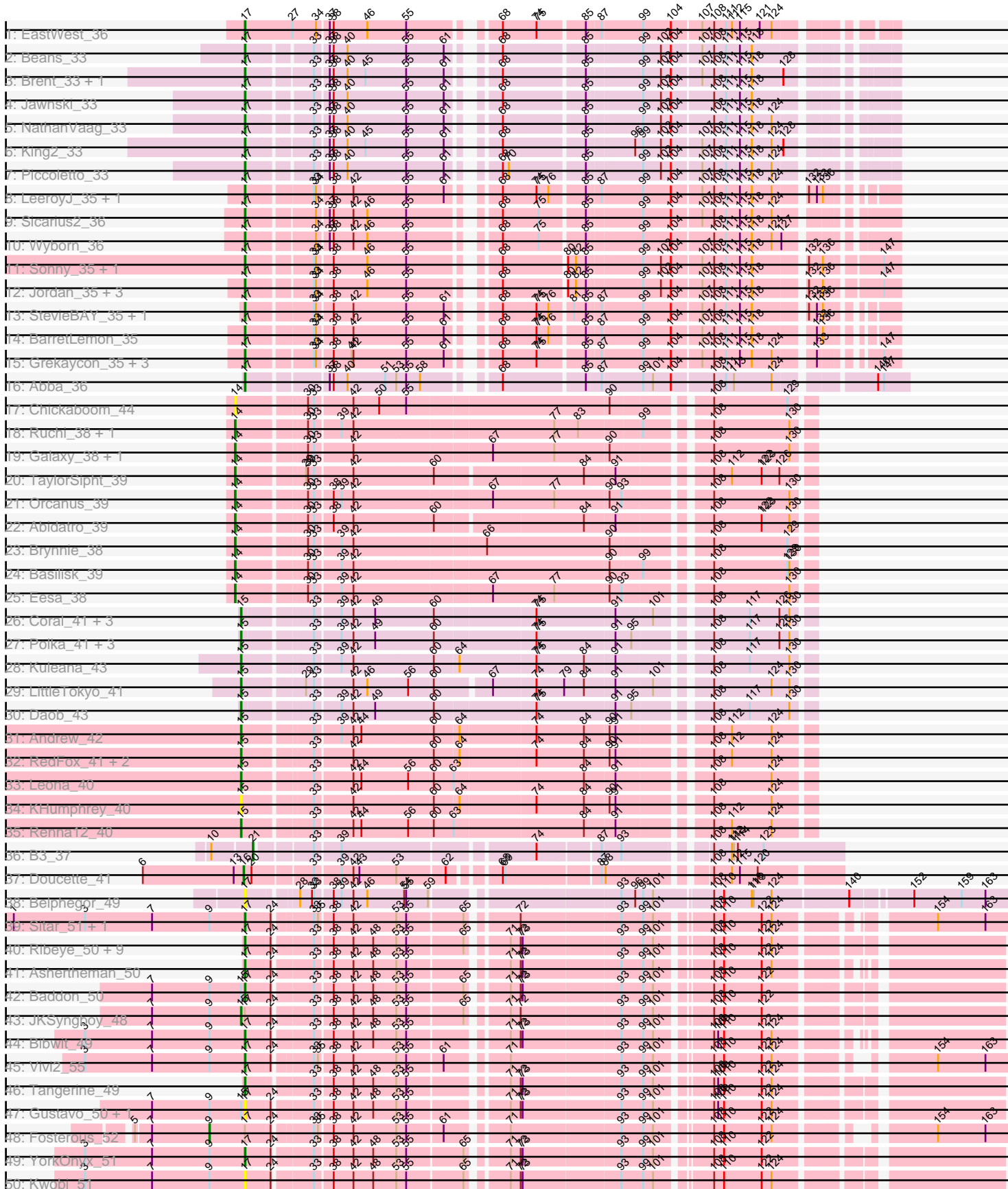
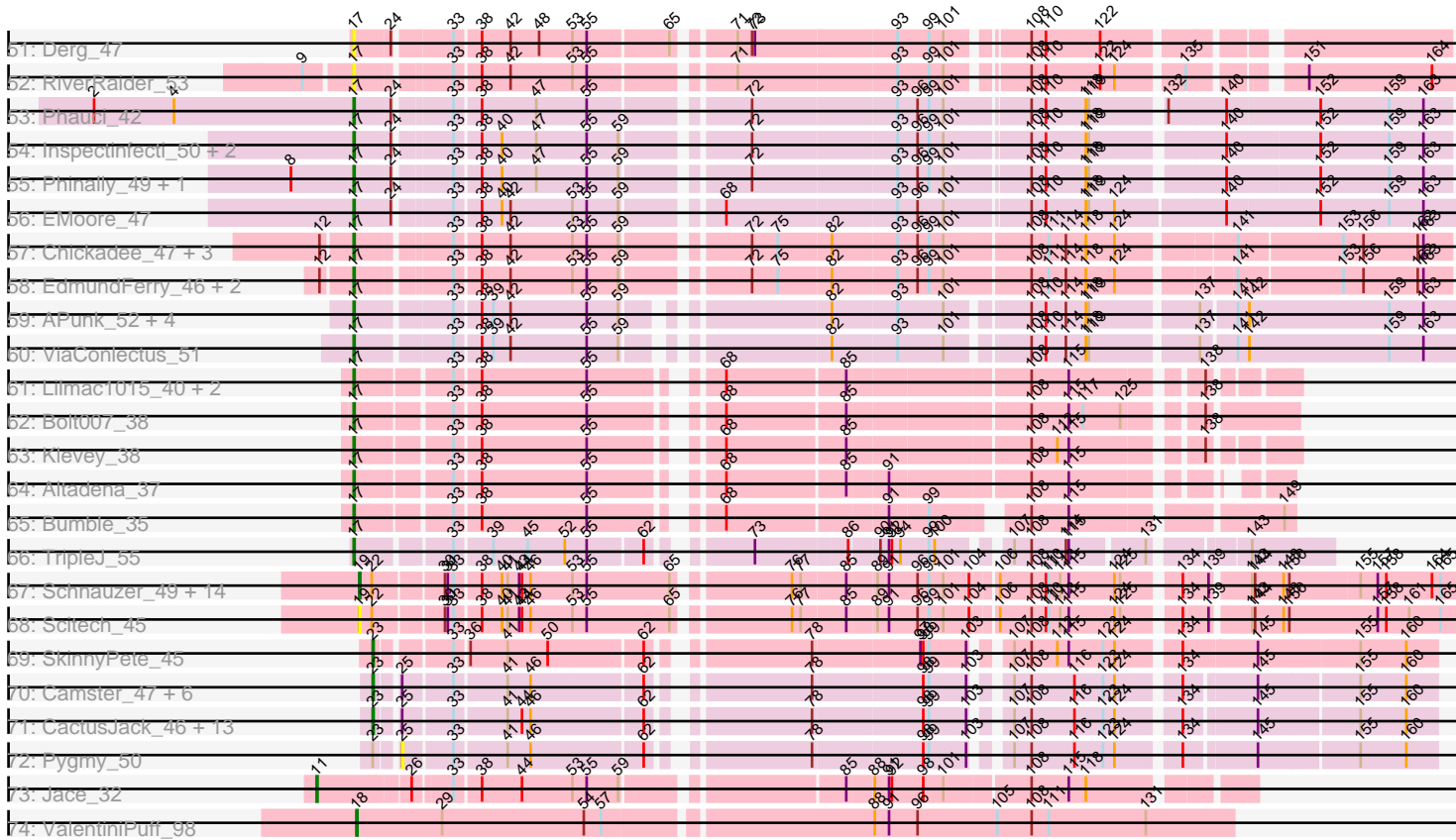


Pham 163399



Pham 163399



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 163399 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163399 has 152 members, 25 are drafts.

Phages represented in each track:

- Track 1 : EastWest_36
- Track 2 : Beans_33
- Track 3 : Brent_33, Franzy_33
- Track 4 : Jawnski_33
- Track 5 : NathanVaag_33
- Track 6 : King2_33
- Track 7 : Piccoletto_33
- Track 8 : LeeroyJ_35, Timinator_35
- Track 9 : Sicarius2_36
- Track 10 : Wyborn_36
- Track 11 : Sonny_35, Shade_35
- Track 12 : Jordan_35, Zartrosa_35, JKerns_35, Pippa_35
- Track 13 : StevieBAY_35, GravityBall_35
- Track 14 : BarretLemon_35
- Track 15 : Grekaycon_35, BossLady_35, TaeYoung_35, Martha_35
- Track 16 : Abba_36
- Track 17 : Chickaboom_44
- Track 18 : Ruchi_38, Vulpecula_38
- Track 19 : Galaxy_38, Jamun_38
- Track 20 : TaylorSipht_39
- Track 21 : Orcanus_39
- Track 22 : Abidatro_39
- Track 23 : Brynnie_38
- Track 24 : Basilisk_39
- Track 25 : Eesa_38
- Track 26 : Coral_41, Amelia_41, HannahPhantana_49, Cote_43
- Track 27 : Polka_41, Kepler_43, Melons_43, Lunar_43
- Track 28 : Kuleana_43
- Track 29 : LittleTokyo_41
- Track 30 : Daob_43
- Track 31 : Andrew_42
- Track 32 : RedFox_41, Juno112_41, PhluffyCoco_41
- Track 33 : Leona_40
- Track 34 : KHumphrey_40
- Track 35 : Renna12_40
- Track 36 : B3_37
- Track 37 : Doucette_41

- Track 38 : Belphegor_49
- Track 39 : Sitar_51, Lennon_51
- Track 40 : Ribeye_50, Bizzy_50, Baumdotcom_48, Flatwoods_50, Gaea_49, StorminNorm_49, SchottB_48, Tycho_49, LilHam_47, Kroos_50
- Track 41 : Ashertheman_50
- Track 42 : Baddon_50
- Track 43 : JKSyngboy_48
- Track 44 : Bibwit_49
- Track 45 : Vivi2_55
- Track 46 : Tangerine_49
- Track 47 : Gustavo_50, Saronaya_50
- Track 48 : Fosterous_52
- Track 49 : YorkOnyx_51
- Track 50 : Kwobi_51
- Track 51 : Derg_47
- Track 52 : RiverRaider_53
- Track 53 : Phauci_42
- Track 54 : Inspectinfecti_50, Hans_51, Ali17_47
- Track 55 : Phinally_49, Leonard_49
- Track 56 : EMoore_47
- Track 57 : Chickadee_47, Kwekel_47, Tiamoceli_48, Twonlo_45
- Track 58 : EdmundFerry_46, GTE6_47, RoadKill_45
- Track 59 : APunk_52, Sampson_51, Scioto_52, Natkenzie_51, Abblin_51
- Track 60 : ViaConlectus_51
- Track 61 : Lilmac1015_40, CalWood4100_40, Prairie_37
- Track 62 : Bolt007_38
- Track 63 : Klevey_38
- Track 64 : Altadena_37
- Track 65 : Bumble_35
- Track 66 : TripleJ_55
- Track 67 : Schnauzer_49, Fulbright_47, Melville_52, Duplicity_48, Parmesanjohn_48, Phloss_46, Magsby_48, Silvafighter_49, Tapioca_50, Gex_48, Xerxes_48, Chewbacca_50, Pipsqueaks_48, Smurph_48, Carcharodon_48
- Track 68 : Scitech_45
- Track 69 : SkinnyPete_45
- Track 70 : Camster_47, Bogie_50, GreaseLightnin_47, Phineas_48, Shipwreck_50, HUHilltop_48, Sonah_47
- Track 71 : CactusJack_46, Xeno_48, Willsammy_45, Atcoo_46, Glaske_46, Ksquared_46, StevieRay_46, Thespis_46, Brusacoram_46, KilKor_46, Phalm_46, Juniormint_47, Bunnies_47, StressBall_46
- Track 72 : Pygmy_50
- Track 73 : Jace_32
- Track 74 : ValentiniPuff_98

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

The start number called the most often in the published annotations is 17, it was called in 61 of the 127 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk_52, Abba_36, Abblin_51, Ali17_47, Altadena_37, Ashertheman_50, Baddon_50, BarretLemon_35, Baumdotcom_48, Beans_33, Belphegor_49, Bibwit_49, Bizzy_50, Bolt007_38, BossLady_35, Brent_33, Bumble_35, CalWood4100_40, Chickadee_47, Derg_47, EMOore_47, EastWest_36, EdmundFerry_46, Flatwoods_50, Franzy_33, GTE6_47, Gaea_49, GravityBall_35, Grekaycon_35, Gustavo_50, Hans_51, Inspectinfecti_50, JKerns_35, Jawnski_33, Jordan_35, King2_33, Klevey_38, Kroos_50, Kwekel_47, Kwobi_51, LeeroyJ_35, Lennon_51, Leonard_49, LilHam_47, Lilmac1015_40, Martha_35, NathanVaag_33, Natkenzie_51, Phauci_42, Phinally_49, Piccoletto_33, Pippa_35, Prairie_37, Ribeye_50, RiverRaider_53, RoadKill_45, Sampson_51, Saronaya_50, SchottB_48, Scioto_52, Shade_35, Sicarius2_36, Sitar_51, Sonny_35, StevieBAY_35, StorminNorm_49, TaeYoung_35, Tangerine_49, Tiamoceli_48, Timinator_35, TripleJ_55, Twonlo_45, Tycho_49, ViaConlectus_51, Vivi2_55, Wyborn_36, YorkOnyx_51, Zartrosa_35,

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

- Fosterous_52, JKSyngboy_48,

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

- Abidatro_39, Amelia_41, Andrew_42, Atcoo_46, B3_37, Basilisk_39, Bogie_50, Brusacoram_46, Brynnie_38, Bunnies_47, CactusJack_46, Camster_47, Carcharodon_48, Chewbacca_50, Chickaboom_44, Coral_41, Cote_43, Daob_43, Doucette_41, Duplicity_48, Eesa_38, Fulbright_47, Galaxy_38, Gex_48, Glaske_46, GreaseLightnin_47, HUHilltop_48, HannahPhantana_49, Jace_32, Jamun_38, Juniormint_47, Juno112_41, KHumphrey_40, Kepler_43, KilKor_46, Ksquared_46, Kuleana_43, Leona_40, LittleTokyo_41, Lunar_43, Magsby_48, Melons_43, Melville_52, Orcanus_39, Parmesanjohn_48, Phalm_46, Phineas_48, Phloss_46, PhluffyCoco_41, Pipsqueaks_48, Polka_41, Pygmy_50, RedFox_41, Renna12_40, Ruchi_38, Schnauzer_49, Scitech_45, Shipwreck_50, Silvafighter_49, SkinnyPete_45, Smurph_48, Sonah_47, StevieRay_46, StressBall_46, Tapioca_50, TaylorSipt_39, Thespis_46, ValentiniPuff_98, Vulpecula_38, Willsammy_45, Xeno_48, Xerxes_48,

Summary by start number:

Start 9:

- Found in 12 of 152 (7.9%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Fosterous_52 (DE1),

Start 11:

- Found in 1 of 152 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace_32 (singleton),

Start 14:

- Found in 11 of 152 (7.2%) of genes in pham
- Manual Annotations of this start: 10 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro_39 (AS1), Basilisk_39 (AS1), Brynnie_38 (AS1), Chickaboom_44 (AS1), Eesa_38 (AS1), Galaxy_38 (AS1),

Jamun_38 (AS1), Orcanus_39 (AS1), Ruchi_38 (AS1), TaylorSipht_39 (AS1), Vulpecula_38 (AS1),

Start 15:

- Found in 22 of 152 (14.5%) of genes in pham
- Manual Annotations of this start: 15 of 127
- Called 86.4% of time when present
- Phage (with cluster) where this start called: Amelia_41 (AS2), Andrew_42 (AS3), Coral_41 (AS2), Cote_43 (AS2), Daob_43 (AS2), HannahPhantana_49 (AS2), JKSyngboy_48 (DE1), Juno112_41 (AS3), KHumphrey_40 (AS3), Kepler_43 (AS2), Kuleana_43 (AS2), Leona_40 (AS3), LittleTokyo_41 (AS2), Lunar_43 (AS2), Melons_43 (AS2), PhluffyCoco_41 (AS3), Polka_41 (AS2), RedFox_41 (AS3), Rennan12_40 (AS3),

Start 16:

- Found in 1 of 152 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Doucette_41 (BW),

Start 17:

- Found in 80 of 152 (52.6%) of genes in pham
- Manual Annotations of this start: 61 of 127
- Called 97.5% of time when present
- Phage (with cluster) where this start called: APunk_52 (DE4), Abba_36 (AO3), Abblin_51 (DE4), Ali17_47 (DE2), Altadena_37 (FH), Ashertheman_50 (DE1), Baddon_50 (DE1), BarretLemon_35 (AO2), Baumdotcom_48 (DE1), Beans_33 (AO1), Belphegor_49 (DE), Bibwit_49 (DE1), Bizzy_50 (DE1), Bolt007_38 (FH), BossLady_35 (AO2), Brent_33 (AO1), Bumble_35 (FH), CalWood4100_40 (FH), Chickadee_47 (DE3), Derg_47 (DE1), EMOore_47 (DE2), EastWest_36 (AO), EdmundFerry_46 (DE3), Flatwoods_50 (DE1), Franzy_33 (AO1), GTE6_47 (DE3), Gaea_49 (DE1), GravityBall_35 (AO2), Grekaycon_35 (AO2), Gustavo_50 (DE1), Hans_51 (DE2), Inspectinfecti_50 (DE2), JKerns_35 (AO2), Jawnski_33 (AO1), Jordan_35 (AO2), King2_33 (AO1), Klevey_38 (FH), Kroos_50 (DE1), Kwekel_47 (DE3), Kwobi_51 (DE1), LeeroyJ_35 (AO2), Lennon_51 (DE1), Leonard_49 (DE2), LilHam_47 (DE1), Lilmac1015_40 (FH), Martha_35 (AO2), NathanVaag_33 (AO1), Natkenzie_51 (DE4), Phauci_42 (DE2), Phinally_49 (DE2), Piccoletto_33 (AO1), Pippa_35 (AO2), Prairie_37 (FH), Ribeye_50 (DE1), RiverRaider_53 (DE1), RoadKill_45 (DE3), Sampson_51 (DE4), Saronaya_50 (DE1), SchottB_48 (DE1), Scioto_52 (DE4), Shade_35 (AO2), Sicarius2_36 (AO2), Sitar_51 (DE1), Sonny_35 (AO2), StevieBAY_35 (AO2), StorminNorm_49 (DE1), TaeYoung_35 (AO2), Tangerine_49 (DE1), Tiamoceli_48 (DE3), Timinator_35 (AO2), TripleJ_55 (FJ), Twonlo_45 (DE3), Tycho_49 (DE1), ViaConlectus_51 (DE4), Vivi2_55 (DE1), Wyborn_36 (AO2), YorkOnyx_51 (DE1), Zartrosa_35 (AO2),

Start 18:

- Found in 1 of 152 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ValentiniPuff_98 (singleton),

Start 19:

- Found in 16 of 152 (10.5%) of genes in pham

- Manual Annotations of this start: 14 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Carcharodon_48 (N), Chewbacca_50 (N), Duplicity_48 (N), Fulbright_47 (N), Gex_48 (N), Magsby_48 (N), Melville_52 (N), Parmesanjohn_48 (N), Phloss_46 (N), Pipsqueaks_48 (N), Schnauzer_49 (N), Scitech_45 (N), Silvafighter_49 (N), Smurph_48 (N), Tapioca_50 (N), Xerxes_48 (N),

Start 21:

- Found in 1 of 152 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 127
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B3_37 (BV),

Start 23:

- Found in 23 of 152 (15.1%) of genes in pham
- Manual Annotations of this start: 22 of 127
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Atcoo_46 (P1), Bogie_50 (P1), Brusacoram_46 (P1), Bunnies_47 (P1), CactusJack_46 (P1), Camster_47 (P1), Glaske_46 (P1), GreaseLightnin_47 (P1), HUHilltop_48 (P1), Juniormint_47 (P1), KilKor_46 (P1), Ksquared_46 (P1), Phalm_46 (P1), Phineas_48 (P1), Shipwreck_50 (P1), SkinnyPete_45 (N), Sonah_47 (P1), StevieRay_46 (P1), StressBall_46 (P1), Thespis_46 (P1), Willsammy_45 (P1), Xeno_48 (N),

Start 25:

- Found in 22 of 152 (14.5%) of genes in pham
- No Manual Annotations of this start.
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Pygmy_50 (P1),

Summary by clusters:

There are 19 clusters represented in this pham: AS3, AS2, singleton, P1, DE1, DE2, DE3, DE4, AS1, AO, N, BV, BW, AO3, AO2, AO1, FH, FJ, DE,

Info for manual annotations of cluster AO:

- Start number 17 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 17 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 17 was manually annotated 16 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 17 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AS1:

- Start number 14 was manually annotated 10 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 15 was manually annotated 10 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 15 was manually annotated 4 times for cluster AS3.

Info for manual annotations of cluster BV:

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

Info for manual annotations of cluster BW:

- Start number 16 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster DE1:

- Start number 9 was manually annotated 1 time for cluster DE1.
- Start number 15 was manually annotated 1 time for cluster DE1.
- Start number 17 was manually annotated 15 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 17 was manually annotated 6 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 17 was manually annotated 5 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 17 was manually annotated 3 times for cluster DE4.

Info for manual annotations of cluster FH:

- Start number 17 was manually annotated 6 times for cluster FH.

Info for manual annotations of cluster FJ:

- Start number 17 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster N:

- Start number 19 was manually annotated 14 times for cluster N.
- Start number 23 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 23 was manually annotated 20 times for cluster P1.

Gene Information:

Gene: APunk_52 Start: 43066, Stop: 44106, Start Num: 17

Candidate Starts for APunk_52:

(Start: 17 @43066 has 61 MA's), (33, 43156), (38, 43180), (39, 43192), (42, 43210), (55, 43288), (59, 43321), (82, 43495), (93, 43561), (101, 43609), (108, 43681), (110, 43696), (114, 43717), (118, 43738), (119, 43741), (137, 43846), (141, 43879), (142, 43891), (159, 44038), (163, 44074),

Gene: Abba_36 Start: 28749, Stop: 29633, Start Num: 17

Candidate Starts for Abba_36:

(Start: 17 @28749 has 61 MA's), (37, 28854), (38, 28860), (40, 28881), (51, 28938), (53, 28953), (55, 28968), (58, 28989), (68, 29073), (85, 29190), (87, 29211), (99, 29271), (101, 29286), (104, 29313), (108, 29370), (111, 29388), (113, 29400), (124, 29457), (146, 29586), (147, 29595),

Gene: Abblin_51 Start: 43588, Stop: 44628, Start Num: 17

Candidate Starts for Abblin_51:

(Start: 17 @43588 has 61 MA's), (33, 43678), (38, 43702), (39, 43714), (42, 43732), (55, 43810), (59, 43843), (82, 44017), (93, 44083), (101, 44131), (108, 44203), (110, 44218), (114, 44239), (118, 44260), (119, 44263), (137, 44368), (141, 44401), (142, 44413), (159, 44560), (163, 44596),

Gene: Abidatro_39 Start: 26326, Stop: 27126, Start Num: 14

Candidate Starts for Abidatro_39:

(Start: 14 @26326 has 10 MA's), (30, 26422), (33, 26431), (38, 26455), (42, 26485), (60, 26602), (84, 26815), (91, 26860), (108, 26980), (122, 27052), (123, 27055), (130, 27094),

Gene: Ali17_47 Start: 41267, Stop: 42328, Start Num: 17

Candidate Starts for Ali17_47:

(Start: 17 @41267 has 61 MA's), (24, 41303), (33, 41354), (38, 41378), (40, 41399), (47, 41435), (55, 41486), (59, 41519), (72, 41630), (93, 41777), (96, 41798), (99, 41810), (101, 41825), (108, 41906), (110, 41921), (118, 41963), (119, 41966), (140, 42095), (152, 42191), (159, 42263), (163, 42299),

Gene: Altadena_37 Start: 28014, Stop: 28847, Start Num: 17

Candidate Starts for Altadena_37:

(Start: 17 @28014 has 61 MA's), (33, 28104), (38, 28128), (55, 28236), (68, 28341), (85, 28461), (91, 28500), (108, 28638), (115, 28677),

Gene: Amelia_41 Start: 26090, Stop: 26884, Start Num: 15

Candidate Starts for Amelia_41:

(Start: 15 @26090 has 15 MA's), (33, 26183), (39, 26219), (42, 26237), (49, 26270), (60, 26354), (74, 26501), (75, 26504), (91, 26618), (101, 26672), (108, 26738), (117, 26792), (126, 26837), (130, 26852),

Gene: Andrew_42 Start: 25907, Stop: 26704, Start Num: 15

Candidate Starts for Andrew_42:

(Start: 15 @25907 has 15 MA's), (33, 26003), (39, 26039), (42, 26057), (44, 26069), (60, 26174), (64, 26210), (74, 26321), (84, 26393), (90, 26429), (91, 26438), (108, 26558), (112, 26585), (124, 26645),

Gene: Ashertheman_50 Start: 42632, Stop: 43633, Start Num: 17

Candidate Starts for Ashertheman_50:

(Start: 17 @42632 has 61 MA's), (24, 42668), (33, 42722), (38, 42746), (42, 42776), (48, 42806), (53, 42839), (55, 42854), (71, 42983), (72, 42998), (73, 43001), (93, 43145), (99, 43178), (101, 43193), (108, 43262), (110, 43277), (122, 43334), (124, 43349),

Gene: Atcoo_46 Start: 33030, Stop: 34004, Start Num: 23

Candidate Starts for Atcoo_46:

(Start: 23 @33030 has 22 MA's), (25, 33048), (33, 33096), (41, 33147), (44, 33162), (46, 33171), (62, 33282), (78, 33417), (98, 33528), (99, 33531), (103, 33570), (107, 33594), (108, 33612), (116, 33657), (123, 33687), (124, 33699), (134, 33756), (145, 33825), (155, 33924), (160, 33972),

Gene: B3_37 Start: 26812, Stop: 27609, Start Num: 21

Candidate Starts for B3_37:

(10, 26755), (Start: 21 @26812 has 1 MA's), (33, 26887), (39, 26923), (74, 27193), (87, 27280), (93, 27307), (108, 27412), (112, 27439), (113, 27442), (114, 27448), (123, 27487),

Gene: Baddon_50 Start: 43605, Stop: 44627, Start Num: 17

Candidate Starts for Baddon_50:

(7, 43464), (Start: 9 @43551 has 1 MA's), (Start: 15 @43599 has 15 MA's), (Start: 17 @43605 has 61 MA's), (24, 43641), (33, 43695), (38, 43719), (42, 43749), (48, 43779), (53, 43812), (55, 43827), (65, 43908), (71, 43956), (72, 43971), (73, 43974), (93, 44118), (99, 44151), (101, 44166), (108, 44235), (110, 44250), (122, 44307),

Gene: BarretLemon_35 Start: 29827, Stop: 30672, Start Num: 17

Candidate Starts for BarretLemon_35:

(Start: 17 @29827 has 61 MA's), (33, 29920), (34, 29923), (38, 29944), (42, 29974), (55, 30052), (61, 30109), (68, 30157), (74, 30208), (75, 30211), (76, 30226), (85, 30274), (87, 30292), (99, 30352), (104, 30394), (107, 30433), (108, 30451), (111, 30469), (115, 30490), (118, 30508), (133, 30589), (136, 30595),

Gene: Basilisk_39 Start: 26840, Stop: 27646, Start Num: 14

Candidate Starts for Basilisk_39:

(Start: 14 @26840 has 10 MA's), (30, 26936), (33, 26945), (39, 26981), (42, 26999), (90, 27374), (99, 27419), (108, 27500), (129, 27611), (130, 27614),

Gene: Baumdotcom_48 Start: 42032, Stop: 43054, Start Num: 17

Candidate Starts for Baumdotcom_48:

(Start: 17 @42032 has 61 MA's), (24, 42068), (33, 42122), (38, 42146), (42, 42176), (48, 42206), (53, 42239), (55, 42254), (65, 42335), (71, 42383), (72, 42398), (73, 42401), (93, 42545), (99, 42578), (101, 42593), (108, 42662), (110, 42677), (122, 42734), (124, 42749),

Gene: Beans_33 Start: 29523, Stop: 30368, Start Num: 17

Candidate Starts for Beans_33:

(Start: 17 @29523 has 61 MA's), (33, 29610), (37, 29628), (38, 29634), (40, 29655), (55, 29742), (61, 29799), (68, 29847), (85, 29964), (99, 30042), (102, 30069), (104, 30084), (107, 30123), (108, 30141), (111, 30159), (115, 30180), (118, 30198),

Gene: Belphegor_49 Start: 43122, Stop: 44186, Start Num: 17

Candidate Starts for Belphegor_49:

(Start: 17 @43122 has 61 MA's), (28, 43188), (32, 43206), (33, 43209), (38, 43233), (39, 43245), (42, 43263), (46, 43284), (54, 43338), (55, 43341), (59, 43374), (93, 43632), (96, 43653), (99, 43665), (101, 43680), (108, 43761), (110, 43776), (118, 43818), (119, 43821), (124, 43848), (140, 43959), (152, 44040), (159, 44112), (163, 44148),

Gene: Bibwit_49 Start: 42164, Stop: 43165, Start Num: 17

Candidate Starts for Bibwit_49:

(3, 41921), (7, 42023), (Start: 9 @42110 has 1 MA's), (Start: 17 @42164 has 61 MA's), (24, 42200), (33, 42254), (38, 42278), (42, 42308), (48, 42338), (53, 42371), (55, 42386), (71, 42515), (72, 42530), (73, 42533), (93, 42677), (99, 42710), (101, 42725), (108, 42794), (109, 42800), (110, 42809), (122, 42866), (124, 42881),

Gene: Bizzy_50 Start: 42320, Stop: 43342, Start Num: 17

Candidate Starts for Bizzy_50:

(Start: 17 @42320 has 61 MA's), (24, 42356), (33, 42410), (38, 42434), (42, 42464), (48, 42494), (53, 42527), (55, 42542), (65, 42623), (71, 42671), (72, 42686), (73, 42689), (93, 42833), (99, 42866), (101, 42881), (108, 42950), (110, 42965), (122, 43022), (124, 43037),

Gene: Bogie_50 Start: 34801, Stop: 35775, Start Num: 23

Candidate Starts for Bogie_50:

(Start: 23 @34801 has 22 MA's), (25, 34819), (33, 34867), (41, 34918), (46, 34942), (62, 35053), (78, 35188), (98, 35299), (99, 35302), (103, 35341), (107, 35365), (108, 35383), (116, 35428), (123,

35458), (124, 35470), (134, 35527), (145, 35596), (155, 35695), (160, 35743),

Gene: Bolt007_38 Start: 30497, Stop: 31360, Start Num: 17

Candidate Starts for Bolt007_38:

(Start: 17 @30497 has 61 MA's), (33, 30587), (38, 30611), (55, 30719), (68, 30824), (85, 30944), (108, 31121), (115, 31160), (117, 31175), (125, 31214), (138, 31277),

Gene: BossLady_35 Start: 29796, Stop: 30644, Start Num: 17

Candidate Starts for BossLady_35:

(Start: 17 @29796 has 61 MA's), (33, 29886), (34, 29889), (38, 29910), (41, 29937), (42, 29940), (55, 30018), (61, 30075), (68, 30123), (74, 30174), (75, 30177), (85, 30240), (87, 30258), (99, 30318), (104, 30360), (107, 30399), (108, 30417), (111, 30435), (115, 30456), (118, 30474), (124, 30504), (133, 30555), (147, 30621),

Gene: Brent_33 Start: 29486, Stop: 30331, Start Num: 17

Candidate Starts for Brent_33:

(Start: 17 @29486 has 61 MA's), (33, 29576), (37, 29594), (38, 29600), (40, 29621), (45, 29648), (55, 29708), (61, 29765), (68, 29813), (85, 29930), (99, 30008), (102, 30035), (104, 30050), (107, 30089), (108, 30107), (111, 30125), (115, 30146), (118, 30164), (128, 30209),

Gene: Brusacoram_46 Start: 32536, Stop: 33510, Start Num: 23

Candidate Starts for Brusacoram_46:

(Start: 23 @32536 has 22 MA's), (25, 32554), (33, 32602), (41, 32653), (44, 32668), (46, 32677), (62, 32788), (78, 32923), (98, 33034), (99, 33037), (103, 33076), (107, 33100), (108, 33118), (116, 33163), (123, 33193), (124, 33205), (134, 33262), (145, 33331), (155, 33430), (160, 33478),

Gene: Brynnie_38 Start: 26718, Stop: 27524, Start Num: 14

Candidate Starts for Brynnie_38:

(Start: 14 @26718 has 10 MA's), (30, 26814), (33, 26823), (39, 26859), (42, 26877), (66, 27069), (90, 27252), (108, 27378), (129, 27489),

Gene: Bumble_35 Start: 28079, Stop: 28930, Start Num: 17

Candidate Starts for Bumble_35:

(Start: 17 @28079 has 61 MA's), (33, 28169), (38, 28193), (55, 28301), (68, 28406), (91, 28565), (99, 28604), (108, 28685), (115, 28724), (149, 28919),

Gene: Bunnies_47 Start: 32550, Stop: 33524, Start Num: 23

Candidate Starts for Bunnies_47:

(Start: 23 @32550 has 22 MA's), (25, 32568), (33, 32616), (41, 32667), (44, 32682), (46, 32691), (62, 32802), (78, 32937), (98, 33048), (99, 33051), (103, 33090), (107, 33114), (108, 33132), (116, 33177), (123, 33207), (124, 33219), (134, 33276), (145, 33345), (155, 33444), (160, 33492),

Gene: CactusJack_46 Start: 32800, Stop: 33774, Start Num: 23

Candidate Starts for CactusJack_46:

(Start: 23 @32800 has 22 MA's), (25, 32818), (33, 32866), (41, 32917), (44, 32932), (46, 32941), (62, 33052), (78, 33187), (98, 33298), (99, 33301), (103, 33340), (107, 33364), (108, 33382), (116, 33427), (123, 33457), (124, 33469), (134, 33526), (145, 33595), (155, 33694), (160, 33742),

Gene: CalWood4100_40 Start: 29991, Stop: 30845, Start Num: 17

Candidate Starts for CalWood4100_40:

(Start: 17 @29991 has 61 MA's), (33, 30081), (38, 30105), (55, 30213), (68, 30318), (85, 30438), (108, 30615), (115, 30654), (138, 30771),

Gene: Camster_47 Start: 32557, Stop: 33531, Start Num: 23

Candidate Starts for Camster_47:

(Start: 23 @32557 has 22 MA's), (25, 32575), (33, 32623), (41, 32674), (46, 32698), (62, 32809), (78, 32944), (98, 33055), (99, 33058), (103, 33097), (107, 33121), (108, 33139), (116, 33184), (123, 33214), (124, 33226), (134, 33283), (145, 33352), (155, 33451), (160, 33499),

Gene: Carcharodon_48 Start: 33458, Stop: 34519, Start Num: 19

Candidate Starts for Carcharodon_48:

(Start: 19 @33458 has 14 MA's), (22, 33470), (30, 33536), (31, 33539), (33, 33545), (38, 33569), (40, 33590), (41, 33596), (43, 33608), (44, 33611), (46, 33620), (53, 33662), (55, 33677), (65, 33764), (76, 33869), (77, 33878), (85, 33923), (89, 33950), (91, 33962), (96, 33992), (99, 34004), (101, 34019), (104, 34046), (106, 34067), (108, 34100), (110, 34115), (111, 34118), (113, 34130), (115, 34139), (124, 34187), (125, 34193), (134, 34244), (139, 34268), (143, 34301), (144, 34304), (148, 34334), (150, 34340), (155, 34412), (157, 34430), (158, 34439), (164, 34487), (165, 34496),

Gene: Chewbacca_50 Start: 33458, Stop: 34519, Start Num: 19

Candidate Starts for Chewbacca_50:

(Start: 19 @33458 has 14 MA's), (22, 33470), (30, 33536), (31, 33539), (33, 33545), (38, 33569), (40, 33590), (41, 33596), (43, 33608), (44, 33611), (46, 33620), (53, 33662), (55, 33677), (65, 33764), (76, 33869), (77, 33878), (85, 33923), (89, 33950), (91, 33962), (96, 33992), (99, 34004), (101, 34019), (104, 34046), (106, 34067), (108, 34100), (110, 34115), (111, 34118), (113, 34130), (115, 34139), (124, 34187), (125, 34193), (134, 34244), (139, 34268), (143, 34301), (144, 34304), (148, 34334), (150, 34340), (155, 34412), (157, 34430), (158, 34439), (164, 34487), (165, 34496),

Gene: Chickaboom_44 Start: 26337, Stop: 27143, Start Num: 14

Candidate Starts for Chickaboom_44:

(Start: 14 @26337 has 10 MA's), (30, 26433), (33, 26442), (42, 26496), (50, 26535), (55, 26574), (90, 26871), (108, 26997), (129, 27108),

Gene: Chickadee_47 Start: 39366, Stop: 40424, Start Num: 17

Candidate Starts for Chickadee_47:

(12, 39336), (Start: 17 @39366 has 61 MA's), (33, 39453), (38, 39477), (42, 39507), (53, 39570), (55, 39585), (59, 39618), (72, 39729), (75, 39756), (82, 39810), (93, 39876), (96, 39897), (99, 39909), (101, 39924), (108, 40008), (111, 40026), (114, 40044), (118, 40065), (124, 40095), (141, 40206), (153, 40311), (156, 40332), (162, 40389), (163, 40395),

Gene: Coral_41 Start: 25938, Stop: 26732, Start Num: 15

Candidate Starts for Coral_41:

(Start: 15 @25938 has 15 MA's), (33, 26031), (39, 26067), (42, 26085), (49, 26118), (60, 26202), (74, 26349), (75, 26352), (91, 26466), (101, 26520), (108, 26586), (117, 26640), (126, 26685), (130, 26700),

Gene: Cote_43 Start: 26415, Stop: 27209, Start Num: 15

Candidate Starts for Cote_43:

(Start: 15 @26415 has 15 MA's), (33, 26508), (39, 26544), (42, 26562), (49, 26595), (60, 26679), (74, 26826), (75, 26829), (91, 26943), (101, 26997), (108, 27063), (117, 27117), (126, 27162), (130, 27177),

Gene: Daob_43 Start: 26423, Stop: 27217, Start Num: 15

Candidate Starts for Daob_43:

(Start: 15 @26423 has 15 MA's), (33, 26516), (39, 26552), (42, 26570), (49, 26603), (60, 26687), (74, 26834), (75, 26837), (91, 26951), (95, 26975), (108, 27071), (117, 27125), (130, 27185),

Gene: Derg_47 Start: 41912, Stop: 42934, Start Num: 17

Candidate Starts for Derg_47:

(Start: 17 @41912 has 61 MA's), (24, 41948), (33, 42002), (38, 42026), (42, 42056), (48, 42086), (53, 42119), (55, 42134), (65, 42215), (71, 42263), (72, 42278), (73, 42281), (93, 42425), (99, 42458), (101, 42473), (108, 42542), (110, 42557), (122, 42614),

Gene: Doucette_41 Start: 28699, Stop: 29496, Start Num: 16

Candidate Starts for Doucette_41:

(6, 28546), (13, 28684), (Start: 16 @28699 has 1 MA's), (20, 28711), (33, 28795), (39, 28831), (42, 28849), (43, 28858), (53, 28912), (62, 28981), (68, 29038), (69, 29041), (87, 29176), (88, 29179), (108, 29311), (112, 29338), (115, 29350), (120, 29377),

Gene: Duplicity_48 Start: 33467, Stop: 34528, Start Num: 19

Candidate Starts for Duplicity_48:

(Start: 19 @33467 has 14 MA's), (22, 33479), (30, 33545), (31, 33548), (33, 33554), (38, 33578), (40, 33599), (41, 33605), (43, 33617), (44, 33620), (46, 33629), (53, 33671), (55, 33686), (65, 33773), (76, 33878), (77, 33887), (85, 33932), (89, 33959), (91, 33971), (96, 34001), (99, 34013), (101, 34028), (104, 34055), (106, 34076), (108, 34109), (110, 34124), (111, 34127), (113, 34139), (115, 34148), (124, 34196), (125, 34202), (134, 34253), (139, 34277), (143, 34310), (144, 34313), (148, 34343), (150, 34349), (155, 34421), (157, 34439), (158, 34448), (164, 34496), (165, 34505),

Gene: EMoore_47 Start: 42468, Stop: 43541, Start Num: 17

Candidate Starts for EMoore_47:

(Start: 17 @42468 has 61 MA's), (24, 42504), (33, 42555), (38, 42579), (40, 42600), (42, 42609), (53, 42672), (55, 42687), (59, 42720), (68, 42804), (93, 42978), (96, 42999), (101, 43026), (108, 43107), (110, 43122), (118, 43164), (119, 43167), (124, 43194), (140, 43305), (152, 43401), (159, 43473), (163, 43509),

Gene: EastWest_36 Start: 29042, Stop: 29902, Start Num: 17

Candidate Starts for EastWest_36:

(Start: 17 @29042 has 61 MA's), (27, 29114), (34, 29150), (37, 29165), (38, 29171), (46, 29222), (55, 29279), (68, 29384), (74, 29435), (75, 29438), (85, 29501), (87, 29519), (99, 29579), (104, 29621), (107, 29660), (108, 29678), (111, 29696), (112, 29705), (115, 29717), (121, 29747), (124, 29765),

Gene: EdmundFerry_46 Start: 39437, Stop: 40492, Start Num: 17

Candidate Starts for EdmundFerry_46:

(12, 39407), (Start: 17 @39437 has 61 MA's), (33, 39524), (38, 39548), (42, 39578), (53, 39641), (55, 39656), (59, 39689), (72, 39800), (75, 39827), (82, 39881), (93, 39947), (96, 39968), (99, 39980), (101, 39995), (108, 40079), (111, 40097), (114, 40115), (118, 40136), (124, 40166), (141, 40274), (153, 40379), (156, 40400), (162, 40457), (163, 40463),

Gene: Eesa_38 Start: 27219, Stop: 28025, Start Num: 14

Candidate Starts for Eesa_38:

(Start: 14 @27219 has 10 MA's), (30, 27315), (33, 27324), (39, 27360), (42, 27378), (67, 27579), (77, 27672), (90, 27753), (93, 27771), (108, 27879), (130, 27993),

Gene: Flatwoods_50 Start: 42261, Stop: 43283, Start Num: 17

Candidate Starts for Flatwoods_50:

(Start: 17 @42261 has 61 MA's), (24, 42297), (33, 42351), (38, 42375), (42, 42405), (48, 42435), (53, 42468), (55, 42483), (65, 42564), (71, 42612), (72, 42627), (73, 42630), (93, 42774), (99, 42807), (101, 42822), (108, 42891), (110, 42906), (122, 42963), (124, 42978),

Gene: Fosterous_52 Start: 43368, Stop: 44420, Start Num: 9

Candidate Starts for Fosterous_52:

(5, 43260), (7, 43281), (Start: 9 @43368 has 1 MA's), (Start: 17 @43422 has 61 MA's), (24, 43458), (33, 43509), (35, 43515), (38, 43533), (42, 43563), (53, 43626), (55, 43641), (61, 43692), (71, 43770), (93, 43932), (99, 43965), (101, 43980), (108, 44049), (110, 44064), (122, 44121), (124, 44136), (154, 44313), (163, 44385),

Gene: Franzy_33 Start: 29485, Stop: 30330, Start Num: 17

Candidate Starts for Franzy_33:

(Start: 17 @29485 has 61 MA's), (33, 29575), (37, 29593), (38, 29599), (40, 29620), (45, 29647), (55, 29707), (61, 29764), (68, 29812), (85, 29929), (99, 30007), (102, 30034), (104, 30049), (107, 30088), (108, 30106), (111, 30124), (115, 30145), (118, 30163), (128, 30208),

Gene: Fulbright_47 Start: 32547, Stop: 33608, Start Num: 19

Candidate Starts for Fulbright_47:

(Start: 19 @32547 has 14 MA's), (22, 32559), (30, 32625), (31, 32628), (33, 32634), (38, 32658), (40, 32679), (41, 32685), (43, 32697), (44, 32700), (46, 32709), (53, 32751), (55, 32766), (65, 32853), (76, 32958), (77, 32967), (85, 33012), (89, 33039), (91, 33051), (96, 33081), (99, 33093), (101, 33108), (104, 33135), (106, 33156), (108, 33189), (110, 33204), (111, 33207), (113, 33219), (115, 33228), (124, 33276), (125, 33282), (134, 33333), (139, 33357), (143, 33390), (144, 33393), (148, 33423), (150, 33429), (155, 33501), (157, 33519), (158, 33528), (164, 33576), (165, 33585),

Gene: GTE6_47 Start: 39899, Stop: 40960, Start Num: 17

Candidate Starts for GTE6_47:

(12, 39869), (Start: 17 @39899 has 61 MA's), (33, 39986), (38, 40010), (42, 40040), (53, 40103), (55, 40118), (59, 40151), (72, 40262), (75, 40289), (82, 40343), (93, 40409), (96, 40430), (99, 40442), (101, 40457), (108, 40541), (111, 40559), (114, 40577), (118, 40598), (124, 40628), (141, 40739), (153, 40847), (156, 40868), (162, 40925), (163, 40931),

Gene: Gaea_49 Start: 41917, Stop: 42939, Start Num: 17

Candidate Starts for Gaea_49:

(Start: 17 @41917 has 61 MA's), (24, 41953), (33, 42007), (38, 42031), (42, 42061), (48, 42091), (53, 42124), (55, 42139), (65, 42220), (71, 42268), (72, 42283), (73, 42286), (93, 42430), (99, 42463), (101, 42478), (108, 42547), (110, 42562), (122, 42619), (124, 42634),

Gene: Galaxy_38 Start: 26092, Stop: 26898, Start Num: 14

Candidate Starts for Galaxy_38:

(Start: 14 @26092 has 10 MA's), (30, 26188), (33, 26197), (42, 26251), (67, 26452), (77, 26545), (90, 26626), (108, 26752), (130, 26866),

Gene: Gex_48 Start: 33474, Stop: 34535, Start Num: 19

Candidate Starts for Gex_48:

(Start: 19 @33474 has 14 MA's), (22, 33486), (30, 33552), (31, 33555), (33, 33561), (38, 33585), (40, 33606), (41, 33612), (43, 33624), (44, 33627), (46, 33636), (53, 33678), (55, 33693), (65, 33780), (76, 33885), (77, 33894), (85, 33939), (89, 33966), (91, 33978), (96, 34008), (99, 34020), (101, 34035), (104, 34062), (106, 34083), (108, 34116), (110, 34131), (111, 34134), (113, 34146), (115, 34155), (124, 34203), (125, 34209), (134, 34260), (139, 34284), (143, 34317), (144, 34320), (148, 34350), (150, 34356), (155, 34428), (157, 34446), (158, 34455), (164, 34503), (165, 34512),

Gene: Glaske_46 Start: 32800, Stop: 33774, Start Num: 23

Candidate Starts for Glaske_46:

(Start: 23 @32800 has 22 MA's), (25, 32818), (33, 32866), (41, 32917), (44, 32932), (46, 32941), (62, 33052), (78, 33187), (98, 33298), (99, 33301), (103, 33340), (107, 33364), (108, 33382), (116, 33427), (123, 33457), (124, 33469), (134, 33526), (145, 33595), (155, 33694), (160, 33742),

Gene: GravityBall_35 Start: 29827, Stop: 30672, Start Num: 17

Candidate Starts for GravityBall_35:

(Start: 17 @29827 has 61 MA's), (33, 29920), (34, 29923), (38, 29944), (42, 29974), (55, 30052), (61, 30109), (68, 30157), (74, 30208), (75, 30211), (76, 30226), (81, 30256), (85, 30274), (87, 30292), (99, 30352), (104, 30394), (107, 30433), (108, 30451), (111, 30469), (115, 30490), (118, 30508), (132, 30577), (133, 30589), (136, 30595),

Gene: GreaseLightnin_47 Start: 32779, Stop: 33753, Start Num: 23

Candidate Starts for GreaseLightnin_47:

(Start: 23 @32779 has 22 MA's), (25, 32797), (33, 32845), (41, 32896), (46, 32920), (62, 33031), (78, 33166), (98, 33277), (99, 33280), (103, 33319), (107, 33343), (108, 33361), (116, 33406), (123, 33436), (124, 33448), (134, 33505), (145, 33574), (155, 33673), (160, 33721),

Gene: Grekaycon_35 Start: 29742, Stop: 30590, Start Num: 17

Candidate Starts for Grekaycon_35:

(Start: 17 @29742 has 61 MA's), (33, 29832), (34, 29835), (38, 29856), (41, 29883), (42, 29886), (55, 29964), (61, 30021), (68, 30069), (74, 30120), (75, 30123), (85, 30186), (87, 30204), (99, 30264), (104, 30306), (107, 30345), (108, 30363), (111, 30381), (115, 30402), (118, 30420), (124, 30450), (133, 30501), (147, 30567),

Gene: Gustavo_50 Start: 42537, Stop: 43559, Start Num: 17

Candidate Starts for Gustavo_50:

(7, 42396), (Start: 9 @42483 has 1 MA's), (Start: 15 @42531 has 15 MA's), (Start: 17 @42537 has 61 MA's), (24, 42573), (33, 42627), (38, 42651), (42, 42681), (48, 42711), (53, 42744), (55, 42759), (71, 42888), (72, 42903), (73, 42906), (93, 43050), (99, 43083), (101, 43098), (108, 43167), (109, 43173), (110, 43182), (122, 43239), (124, 43254),

Gene: HUHilltop_48 Start: 33058, Stop: 34032, Start Num: 23

Candidate Starts for HUHilltop_48:

(Start: 23 @33058 has 22 MA's), (25, 33076), (33, 33124), (41, 33175), (46, 33199), (62, 33310), (78, 33445), (98, 33556), (99, 33559), (103, 33598), (107, 33622), (108, 33640), (116, 33685), (123, 33715), (124, 33727), (134, 33784), (145, 33853), (155, 33952), (160, 34000),

Gene: HannahPhantana_49 Start: 26085, Stop: 26879, Start Num: 15

Candidate Starts for HannahPhantana_49:

(Start: 15 @26085 has 15 MA's), (33, 26178), (39, 26214), (42, 26232), (49, 26265), (60, 26349), (74, 26496), (75, 26499), (91, 26613), (101, 26667), (108, 26733), (117, 26787), (126, 26832), (130, 26847),

Gene: Hans_51 Start: 41907, Stop: 42968, Start Num: 17

Candidate Starts for Hans_51:

(Start: 17 @41907 has 61 MA's), (24, 41943), (33, 41994), (38, 42018), (40, 42039), (47, 42075), (55, 42126), (59, 42159), (72, 42270), (93, 42417), (96, 42438), (99, 42450), (101, 42465), (108, 42546), (110, 42561), (118, 42603), (119, 42606), (140, 42735), (152, 42831), (159, 42903), (163, 42939),

Gene: Inspectinfecti_50 Start: 42353, Stop: 43414, Start Num: 17

Candidate Starts for Inspectinfecti_50:

(Start: 17 @42353 has 61 MA's), (24, 42389), (33, 42440), (38, 42464), (40, 42485), (47, 42521), (55, 42572), (59, 42605), (72, 42716), (93, 42863), (96, 42884), (99, 42896), (101, 42911), (108, 42992), (110, 43007), (118, 43049), (119, 43052), (140, 43181), (152, 43277), (159, 43349), (163, 43385),

Gene: JKSyngboy_48 Start: 43130, Stop: 44158, Start Num: 15

Candidate Starts for JKSyngboy_48:

(7, 42995), (Start: 9 @43082 has 1 MA's), (Start: 15 @43130 has 15 MA's), (Start: 17 @43136 has 61 MA's), (24, 43172), (33, 43226), (38, 43250), (42, 43280), (48, 43310), (53, 43343), (55, 43358), (65, 43439), (71, 43487), (72, 43502), (93, 43649), (99, 43682), (101, 43697), (108, 43766), (110, 43781), (122, 43838),

Gene: JKerns_35 Start: 29691, Stop: 30554, Start Num: 17

Candidate Starts for JKerns_35:

(Start: 17 @29691 has 61 MA's), (33, 29781), (34, 29784), (38, 29805), (46, 29856), (55, 29913), (68, 30018), (80, 30108), (82, 30120), (85, 30135), (99, 30213), (102, 30240), (104, 30255), (107, 30297), (108, 30315), (111, 30333), (115, 30354), (118, 30372), (132, 30441), (136, 30459), (147, 30531),

Gene: Jace_32 Start: 26355, Stop: 27233, Start Num: 11

Candidate Starts for Jace_32:

(Start: 11 @26355 has 1 MA's), (26, 26445), (33, 26478), (38, 26502), (44, 26544), (53, 26595), (55, 26610), (59, 26643), (85, 26847), (88, 26871), (91, 26886), (92, 26889), (98, 26922), (101, 26940), (108, 27024), (115, 27063), (118, 27081),

Gene: Jamun_38 Start: 26377, Stop: 27183, Start Num: 14

Candidate Starts for Jamun_38:

(Start: 14 @26377 has 10 MA's), (30, 26473), (33, 26482), (42, 26536), (67, 26737), (77, 26830), (90, 26911), (108, 27037), (130, 27151),

Gene: Jawnski_33 Start: 29492, Stop: 30337, Start Num: 17

Candidate Starts for Jawnski_33:

(Start: 17 @29492 has 61 MA's), (33, 29579), (37, 29597), (38, 29603), (40, 29624), (55, 29711), (61, 29768), (68, 29816), (85, 29933), (99, 30011), (102, 30038), (104, 30053), (108, 30110), (111, 30128), (115, 30149), (118, 30167),

Gene: Jordan_35 Start: 29741, Stop: 30604, Start Num: 17

Candidate Starts for Jordan_35:

(Start: 17 @29741 has 61 MA's), (33, 29831), (34, 29834), (38, 29855), (46, 29906), (55, 29963), (68, 30068), (80, 30158), (82, 30170), (85, 30185), (99, 30263), (102, 30290), (104, 30305), (107, 30347), (108, 30365), (111, 30383), (115, 30404), (118, 30422), (132, 30491), (136, 30509), (147, 30581),

Gene: Juniormint_47 Start: 32572, Stop: 33546, Start Num: 23

Candidate Starts for Juniormint_47:

(Start: 23 @32572 has 22 MA's), (25, 32590), (33, 32638), (41, 32689), (44, 32704), (46, 32713), (62, 32824), (78, 32959), (98, 33070), (99, 33073), (103, 33112), (107, 33136), (108, 33154), (116, 33199), (123, 33229), (124, 33241), (134, 33298), (145, 33367), (155, 33466), (160, 33514),

Gene: Juno112_41 Start: 26017, Stop: 26814, Start Num: 15

Candidate Starts for Juno112_41:

(Start: 15 @26017 has 15 MA's), (33, 26113), (42, 26167), (60, 26284), (64, 26320), (74, 26431), (84, 26503), (90, 26539), (91, 26548), (108, 26668), (112, 26695), (124, 26755),

Gene: KHumphrey_40 Start: 26016, Stop: 26813, Start Num: 15

Candidate Starts for KHumphrey_40:

(Start: 15 @26016 has 15 MA's), (33, 26112), (42, 26166), (60, 26283), (64, 26319), (74, 26430), (84, 26502), (90, 26538), (91, 26547), (108, 26667), (124, 26754),

Gene: Kepler_43 Start: 26833, Stop: 27627, Start Num: 15

Candidate Starts for Kepler_43:

(Start: 15 @26833 has 15 MA's), (33, 26926), (39, 26962), (42, 26980), (49, 27013), (60, 27097), (74, 27244), (75, 27247), (91, 27361), (95, 27385), (108, 27481), (117, 27535), (126, 27580), (130, 27595),

Gene: KilKor_46 Start: 32800, Stop: 33774, Start Num: 23

Candidate Starts for KilKor_46:

(Start: 23 @32800 has 22 MA's), (25, 32818), (33, 32866), (41, 32917), (44, 32932), (46, 32941), (62, 33052), (78, 33187), (98, 33298), (99, 33301), (103, 33340), (107, 33364), (108, 33382), (116, 33427), (123, 33457), (124, 33469), (134, 33526), (145, 33595), (155, 33694), (160, 33742),

Gene: King2_33 Start: 29481, Stop: 30326, Start Num: 17

Candidate Starts for King2_33:

(Start: 17 @29481 has 61 MA's), (33, 29571), (37, 29589), (38, 29595), (40, 29616), (45, 29643), (55, 29703), (61, 29760), (68, 29808), (85, 29925), (96, 29991), (99, 30003), (102, 30030), (104, 30045), (107, 30084), (108, 30102), (111, 30120), (115, 30141), (118, 30159), (124, 30189), (128, 30204),

Gene: Klevey_38 Start: 29418, Stop: 30272, Start Num: 17

Candidate Starts for Klevey_38:

(Start: 17 @29418 has 61 MA's), (33, 29508), (38, 29532), (55, 29640), (68, 29745), (85, 29865), (108, 30042), (112, 30069), (115, 30081), (138, 30198),

Gene: Kroos_50 Start: 42820, Stop: 43842, Start Num: 17

Candidate Starts for Kroos_50:

(Start: 17 @42820 has 61 MA's), (24, 42856), (33, 42910), (38, 42934), (42, 42964), (48, 42994), (53, 43027), (55, 43042), (65, 43123), (71, 43171), (72, 43186), (73, 43189), (93, 43333), (99, 43366), (101, 43381), (108, 43450), (110, 43465), (122, 43522), (124, 43537),

Gene: Ksquared_46 Start: 32550, Stop: 33524, Start Num: 23

Candidate Starts for Ksquared_46:

(Start: 23 @32550 has 22 MA's), (25, 32568), (33, 32616), (41, 32667), (44, 32682), (46, 32691), (62, 32802), (78, 32937), (98, 33048), (99, 33051), (103, 33090), (107, 33114), (108, 33132), (116, 33177), (123, 33207), (124, 33219), (134, 33276), (145, 33345), (155, 33444), (160, 33492),

Gene: Kuleana_43 Start: 26408, Stop: 27208, Start Num: 15

Candidate Starts for Kuleana_43:

(Start: 15 @26408 has 15 MA's), (33, 26504), (39, 26540), (42, 26558), (60, 26675), (64, 26711), (74, 26825), (75, 26828), (84, 26897), (91, 26942), (108, 27062), (117, 27116), (130, 27176),

Gene: Kwekel_47 Start: 39327, Stop: 40385, Start Num: 17

Candidate Starts for Kwekel_47:

(12, 39297), (Start: 17 @39327 has 61 MA's), (33, 39414), (38, 39438), (42, 39468), (53, 39531), (55, 39546), (59, 39579), (72, 39690), (75, 39717), (82, 39771), (93, 39837), (96, 39858), (99, 39870), (101, 39885), (108, 39969), (111, 39987), (114, 40005), (118, 40026), (124, 40056), (141, 40167), (153, 40272), (156, 40293), (162, 40350), (163, 40356),

Gene: Kwobi_51 Start: 43246, Stop: 44268, Start Num: 17

Candidate Starts for Kwobi_51:

(3, 43003), (7, 43105), (Start: 9 @43192 has 1 MA's), (Start: 17 @43246 has 61 MA's), (24, 43282), (33, 43336), (38, 43360), (42, 43390), (48, 43420), (53, 43453), (55, 43468), (65, 43549), (71, 43597), (72, 43612), (73, 43615), (93, 43759), (99, 43792), (101, 43807), (108, 43876), (110, 43891), (122, 43948), (124, 43963),

Gene: LeeroyJ_35 Start: 29826, Stop: 30671, Start Num: 17

Candidate Starts for LeeroyJ_35:

(Start: 17 @29826 has 61 MA's), (33, 29919), (34, 29922), (38, 29943), (42, 29973), (55, 30051), (61, 30108), (68, 30156), (74, 30207), (75, 30210), (76, 30225), (85, 30273), (87, 30291), (99, 30351), (104, 30393), (107, 30432), (108, 30450), (111, 30468), (115, 30489), (118, 30507), (124, 30537), (132, 30576), (133, 30588), (136, 30594),

Gene: Lennon_51 Start: 44231, Stop: 45241, Start Num: 17

Candidate Starts for Lennon_51:

(1, 43880), (3, 43988), (7, 44090), (Start: 9 @44177 has 1 MA's), (Start: 17 @44231 has 61 MA's), (24, 44267), (33, 44318), (35, 44324), (38, 44342), (42, 44372), (53, 44435), (55, 44450), (65, 44531), (72, 44594), (93, 44741), (99, 44774), (101, 44789), (108, 44858), (110, 44873), (122, 44930), (124, 44945), (154, 45134), (163, 45206),

Gene: Leona_40 Start: 26088, Stop: 26888, Start Num: 15

Candidate Starts for Leona_40:

(Start: 15 @26088 has 15 MA's), (33, 26184), (42, 26238), (44, 26250), (56, 26319), (60, 26355), (63, 26385), (84, 26577), (91, 26622), (108, 26742), (124, 26829),

Gene: Leonard_49 Start: 42000, Stop: 43061, Start Num: 17

Candidate Starts for Leonard_49:

(8, 41934), (Start: 17 @42000 has 61 MA's), (24, 42036), (33, 42087), (38, 42111), (40, 42132), (47, 42168), (55, 42219), (59, 42252), (72, 42363), (93, 42510), (96, 42531), (99, 42543), (101, 42558), (108, 42639), (110, 42654), (118, 42696), (119, 42699), (140, 42828), (152, 42924), (159, 42996), (163, 43032),

Gene: LilHam_47 Start: 41425, Stop: 42447, Start Num: 17

Candidate Starts for LilHam_47:

(Start: 17 @41425 has 61 MA's), (24, 41461), (33, 41515), (38, 41539), (42, 41569), (48, 41599), (53, 41632), (55, 41647), (65, 41728), (71, 41776), (72, 41791), (73, 41794), (93, 41938), (99, 41971), (101, 41986), (108, 42055), (110, 42070), (122, 42127), (124, 42142),

Gene: Lilmac1015_40 Start: 29991, Stop: 30845, Start Num: 17

Candidate Starts for Lilmac1015_40:

(Start: 17 @29991 has 61 MA's), (33, 30081), (38, 30105), (55, 30213), (68, 30318), (85, 30438), (108, 30615), (115, 30654), (138, 30771),

Gene: LittleTokyo_41 Start: 25961, Stop: 26755, Start Num: 15

Candidate Starts for LittleTokyo_41:

(Start: 15 @25961 has 15 MA's), (29, 26048), (33, 26060), (42, 26114), (46, 26135), (56, 26195), (60, 26231), (67, 26309), (74, 26372), (79, 26414), (84, 26444), (91, 26489), (101, 26543), (108, 26609), (124, 26696), (130, 26723),

Gene: Lunar_43 Start: 26749, Stop: 27543, Start Num: 15

Candidate Starts for Lunar_43:

(Start: 15 @26749 has 15 MA's), (33, 26842), (39, 26878), (42, 26896), (49, 26929), (60, 27013), (74, 27160), (75, 27163), (91, 27277), (95, 27301), (108, 27397), (117, 27451), (126, 27496), (130, 27511),

Gene: Magsby_48 Start: 33475, Stop: 34536, Start Num: 19

Candidate Starts for Magsby_48:

(Start: 19 @33475 has 14 MA's), (22, 33487), (30, 33553), (31, 33556), (33, 33562), (38, 33586), (40, 33607), (41, 33613), (43, 33625), (44, 33628), (46, 33637), (53, 33679), (55, 33694), (65, 33781), (76, 33886), (77, 33895), (85, 33940), (89, 33967), (91, 33979), (96, 34009), (99, 34021), (101, 34036), (104, 34063), (106, 34084), (108, 34117), (110, 34132), (111, 34135), (113, 34147), (115, 34156), (124, 34204), (125, 34210), (134, 34261), (139, 34285), (143, 34318), (144, 34321), (148, 34351),

(150, 34357), (155, 34429), (157, 34447), (158, 34456), (164, 34504), (165, 34513),

Gene: Martha_35 Start: 29743, Stop: 30591, Start Num: 17

Candidate Starts for Martha_35:

(Start: 17 @29743 has 61 MA's), (33, 29833), (34, 29836), (38, 29857), (41, 29884), (42, 29887), (55, 29965), (61, 30022), (68, 30070), (74, 30121), (75, 30124), (85, 30187), (87, 30205), (99, 30265), (104, 30307), (107, 30346), (108, 30364), (111, 30382), (115, 30403), (118, 30421), (124, 30451), (133, 30502), (147, 30568),

Gene: Melons_43 Start: 26563, Stop: 27357, Start Num: 15

Candidate Starts for Melons_43:

(Start: 15 @26563 has 15 MA's), (33, 26656), (39, 26692), (42, 26710), (49, 26743), (60, 26827), (74, 26974), (75, 26977), (91, 27091), (95, 27115), (108, 27211), (117, 27265), (126, 27310), (130, 27325),

Gene: Melville_52 Start: 33459, Stop: 34520, Start Num: 19

Candidate Starts for Melville_52:

(Start: 19 @33459 has 14 MA's), (22, 33471), (30, 33537), (31, 33540), (33, 33546), (38, 33570), (40, 33591), (41, 33597), (43, 33609), (44, 33612), (46, 33621), (53, 33663), (55, 33678), (65, 33765), (76, 33870), (77, 33879), (85, 33924), (89, 33951), (91, 33963), (96, 33993), (99, 34005), (101, 34020), (104, 34047), (106, 34068), (108, 34101), (110, 34116), (111, 34119), (113, 34131), (115, 34140), (124, 34188), (125, 34194), (134, 34245), (139, 34269), (143, 34302), (144, 34305), (148, 34335), (150, 34341), (155, 34413), (157, 34431), (158, 34440), (164, 34488), (165, 34497),

Gene: NathanVaag_33 Start: 29495, Stop: 30340, Start Num: 17

Candidate Starts for NathanVaag_33:

(Start: 17 @29495 has 61 MA's), (33, 29582), (37, 29600), (38, 29606), (40, 29627), (55, 29714), (61, 29771), (68, 29819), (85, 29936), (99, 30014), (102, 30041), (104, 30056), (108, 30113), (111, 30131), (115, 30152), (118, 30170), (124, 30200),

Gene: Natkenzie_51 Start: 43588, Stop: 44628, Start Num: 17

Candidate Starts for Natkenzie_51:

(Start: 17 @43588 has 61 MA's), (33, 43678), (38, 43702), (39, 43714), (42, 43732), (55, 43810), (59, 43843), (82, 44017), (93, 44083), (101, 44131), (108, 44203), (110, 44218), (114, 44239), (118, 44260), (119, 44263), (137, 44368), (141, 44401), (142, 44413), (159, 44560), (163, 44596),

Gene: Orcanus_39 Start: 26742, Stop: 27548, Start Num: 14

Candidate Starts for Orcanus_39:

(Start: 14 @26742 has 10 MA's), (30, 26838), (33, 26847), (38, 26871), (39, 26883), (42, 26901), (67, 27102), (77, 27195), (90, 27276), (93, 27294), (108, 27402), (130, 27516),

Gene: Parmesanjohn_48 Start: 33478, Stop: 34539, Start Num: 19

Candidate Starts for Parmesanjohn_48:

(Start: 19 @33478 has 14 MA's), (22, 33490), (30, 33556), (31, 33559), (33, 33565), (38, 33589), (40, 33610), (41, 33616), (43, 33628), (44, 33631), (46, 33640), (53, 33682), (55, 33697), (65, 33784), (76, 33889), (77, 33898), (85, 33943), (89, 33970), (91, 33982), (96, 34012), (99, 34024), (101, 34039), (104, 34066), (106, 34087), (108, 34120), (110, 34135), (111, 34138), (113, 34150), (115, 34159), (124, 34207), (125, 34213), (134, 34264), (139, 34288), (143, 34321), (144, 34324), (148, 34354), (150, 34360), (155, 34432), (157, 34450), (158, 34459), (164, 34507), (165, 34516),

Gene: Phalm_46 Start: 32800, Stop: 33774, Start Num: 23

Candidate Starts for Phalm_46:

(Start: 23 @32800 has 22 MA's), (25, 32818), (33, 32866), (41, 32917), (44, 32932), (46, 32941), (62, 33052), (78, 33187), (98, 33298), (99, 33301), (103, 33340), (107, 33364), (108, 33382), (116, 33427),

(123, 33457), (124, 33469), (134, 33526), (145, 33595), (155, 33694), (160, 33742),

Gene: Phauci_42 Start: 38921, Stop: 39982, Start Num: 17

Candidate Starts for Phauci_42:

(2, 38648), (4, 38732), (Start: 17 @38921 has 61 MA's), (24, 38957), (33, 39008), (38, 39032), (47, 39089), (55, 39140), (72, 39284), (93, 39431), (96, 39452), (99, 39464), (101, 39479), (108, 39560), (110, 39575), (118, 39617), (119, 39620), (132, 39689), (140, 39749), (152, 39845), (159, 39917), (163, 39953),

Gene: Phinally_49 Start: 41997, Stop: 43058, Start Num: 17

Candidate Starts for Phinally_49:

(8, 41931), (Start: 17 @41997 has 61 MA's), (24, 42033), (33, 42084), (38, 42108), (40, 42129), (47, 42165), (55, 42216), (59, 42249), (72, 42360), (93, 42507), (96, 42528), (99, 42540), (101, 42555), (108, 42636), (110, 42651), (118, 42693), (119, 42696), (140, 42825), (152, 42921), (159, 42993), (163, 43029),

Gene: Phineas_48 Start: 33393, Stop: 34367, Start Num: 23

Candidate Starts for Phineas_48:

(Start: 23 @33393 has 22 MA's), (25, 33411), (33, 33459), (41, 33510), (46, 33534), (62, 33645), (78, 33780), (98, 33891), (99, 33894), (103, 33933), (107, 33957), (108, 33975), (116, 34020), (123, 34050), (124, 34062), (134, 34119), (145, 34188), (155, 34287), (160, 34335),

Gene: Phloss_46 Start: 32885, Stop: 33946, Start Num: 19

Candidate Starts for Phloss_46:

(Start: 19 @32885 has 14 MA's), (22, 32897), (30, 32963), (31, 32966), (33, 32972), (38, 32996), (40, 33017), (41, 33023), (43, 33035), (44, 33038), (46, 33047), (53, 33089), (55, 33104), (65, 33191), (76, 33296), (77, 33305), (85, 33350), (89, 33377), (91, 33389), (96, 33419), (99, 33431), (101, 33446), (104, 33473), (106, 33494), (108, 33527), (110, 33542), (111, 33545), (113, 33557), (115, 33566), (124, 33614), (125, 33620), (134, 33671), (139, 33695), (143, 33728), (144, 33731), (148, 33761), (150, 33767), (155, 33839), (157, 33857), (158, 33866), (164, 33914), (165, 33923),

Gene: PhluffyCoco_41 Start: 26013, Stop: 26810, Start Num: 15

Candidate Starts for PhluffyCoco_41:

(Start: 15 @26013 has 15 MA's), (33, 26109), (42, 26163), (60, 26280), (64, 26316), (74, 26427), (84, 26499), (90, 26535), (91, 26544), (108, 26664), (112, 26691), (124, 26751),

Gene: Piccoletto_33 Start: 29496, Stop: 30341, Start Num: 17

Candidate Starts for Piccoletto_33:

(Start: 17 @29496 has 61 MA's), (33, 29583), (37, 29601), (38, 29607), (40, 29628), (55, 29715), (61, 29772), (68, 29820), (70, 29829), (85, 29937), (99, 30015), (102, 30042), (104, 30057), (107, 30096), (108, 30114), (111, 30132), (115, 30153), (118, 30171), (124, 30201),

Gene: Pippa_35 Start: 29870, Stop: 30733, Start Num: 17

Candidate Starts for Pippa_35:

(Start: 17 @29870 has 61 MA's), (33, 29960), (34, 29963), (38, 29984), (46, 30035), (55, 30092), (68, 30197), (80, 30287), (82, 30299), (85, 30314), (99, 30392), (102, 30419), (104, 30434), (107, 30476), (108, 30494), (111, 30512), (115, 30533), (118, 30551), (132, 30620), (136, 30638), (147, 30710),

Gene: Pipsqueaks_48 Start: 33455, Stop: 34516, Start Num: 19

Candidate Starts for Pipsqueaks_48:

(Start: 19 @33455 has 14 MA's), (22, 33467), (30, 33533), (31, 33536), (33, 33542), (38, 33566), (40, 33587), (41, 33593), (43, 33605), (44, 33608), (46, 33617), (53, 33659), (55, 33674), (65, 33761), (76, 33866), (77, 33875), (85, 33920), (89, 33947), (91, 33959), (96, 33989), (99, 34001), (101, 34016),

(104, 34043), (106, 34064), (108, 34097), (110, 34112), (111, 34115), (113, 34127), (115, 34136), (124, 34184), (125, 34190), (134, 34241), (139, 34265), (143, 34298), (144, 34301), (148, 34331), (150, 34337), (155, 34409), (157, 34427), (158, 34436), (164, 34484), (165, 34493),

Gene: Polka_41 Start: 25939, Stop: 26733, Start Num: 15

Candidate Starts for Polka_41:

(Start: 15 @25939 has 15 MA's), (33, 26032), (39, 26068), (42, 26086), (49, 26119), (60, 26203), (74, 26350), (75, 26353), (91, 26467), (95, 26491), (108, 26587), (117, 26641), (126, 26686), (130, 26701),

Gene: Prairie_37 Start: 29334, Stop: 30188, Start Num: 17

Candidate Starts for Prairie_37:

(Start: 17 @29334 has 61 MA's), (33, 29424), (38, 29448), (55, 29556), (68, 29661), (85, 29781), (108, 29958), (115, 29997), (138, 30114),

Gene: Pygmy_50 Start: 34875, Stop: 35831, Start Num: 25

Candidate Starts for Pygmy_50:

(Start: 23 @34857 has 22 MA's), (25, 34875), (33, 34923), (41, 34974), (46, 34998), (62, 35109), (78, 35244), (98, 35355), (99, 35358), (103, 35397), (107, 35421), (108, 35439), (116, 35484), (123, 35514), (124, 35526), (134, 35583), (145, 35652), (155, 35751), (160, 35799),

Gene: RedFox_41 Start: 26012, Stop: 26809, Start Num: 15

Candidate Starts for RedFox_41:

(Start: 15 @26012 has 15 MA's), (33, 26108), (42, 26162), (60, 26279), (64, 26315), (74, 26426), (84, 26498), (90, 26534), (91, 26543), (108, 26663), (112, 26690), (124, 26750),

Gene: Renna12_40 Start: 26070, Stop: 26870, Start Num: 15

Candidate Starts for Renna12_40:

(Start: 15 @26070 has 15 MA's), (33, 26166), (42, 26220), (44, 26232), (56, 26301), (60, 26337), (63, 26367), (84, 26559), (91, 26604), (108, 26724), (112, 26751), (124, 26811),

Gene: Ribeye_50 Start: 43238, Stop: 44260, Start Num: 17

Candidate Starts for Ribeye_50:

(Start: 17 @43238 has 61 MA's), (24, 43274), (33, 43328), (38, 43352), (42, 43382), (48, 43412), (53, 43445), (55, 43460), (65, 43541), (71, 43589), (72, 43604), (73, 43607), (93, 43751), (99, 43784), (101, 43799), (108, 43868), (110, 43883), (122, 43940), (124, 43955),

Gene: RiverRaider_53 Start: 41929, Stop: 42948, Start Num: 17

Candidate Starts for RiverRaider_53:

(Start: 9 @41884 has 1 MA's), (Start: 17 @41929 has 61 MA's), (33, 42016), (38, 42040), (42, 42070), (53, 42133), (55, 42148), (71, 42277), (93, 42439), (99, 42472), (101, 42487), (108, 42556), (110, 42571), (122, 42628), (124, 42643), (135, 42706), (151, 42796), (164, 42925),

Gene: RoadKill_45 Start: 38932, Stop: 39990, Start Num: 17

Candidate Starts for RoadKill_45:

(12, 38902), (Start: 17 @38932 has 61 MA's), (33, 39019), (38, 39043), (42, 39073), (53, 39136), (55, 39151), (59, 39184), (72, 39295), (75, 39322), (82, 39376), (93, 39442), (96, 39463), (99, 39475), (101, 39490), (108, 39574), (111, 39592), (114, 39610), (118, 39631), (124, 39661), (141, 39772), (153, 39877), (156, 39898), (162, 39955), (163, 39961),

Gene: Ruchi_38 Start: 26786, Stop: 27592, Start Num: 14

Candidate Starts for Ruchi_38:

(Start: 14 @26786 has 10 MA's), (30, 26882), (33, 26891), (39, 26927), (42, 26945), (77, 27239), (83, 27275), (99, 27365), (108, 27446), (130, 27560),

Gene: Sampson_51 Start: 43533, Stop: 44573, Start Num: 17

Candidate Starts for Sampson_51:

(Start: 17 @43533 has 61 MA's), (33, 43623), (38, 43647), (39, 43659), (42, 43677), (55, 43755), (59, 43788), (82, 43962), (93, 44028), (101, 44076), (108, 44148), (110, 44163), (114, 44184), (118, 44205), (119, 44208), (137, 44313), (141, 44346), (142, 44358), (159, 44505), (163, 44541),

Gene: Saronaya_50 Start: 42537, Stop: 43559, Start Num: 17

Candidate Starts for Saronaya_50:

(7, 42396), (Start: 9 @42483 has 1 MA's), (Start: 15 @42531 has 15 MA's), (Start: 17 @42537 has 61 MA's), (24, 42573), (33, 42627), (38, 42651), (42, 42681), (48, 42711), (53, 42744), (55, 42759), (71, 42888), (72, 42903), (73, 42906), (93, 43050), (99, 43083), (101, 43098), (108, 43167), (109, 43173), (110, 43182), (122, 43239), (124, 43254),

Gene: Schnauzer_49 Start: 33478, Stop: 34539, Start Num: 19

Candidate Starts for Schnauzer_49:

(Start: 19 @33478 has 14 MA's), (22, 33490), (30, 33556), (31, 33559), (33, 33565), (38, 33589), (40, 33610), (41, 33616), (43, 33628), (44, 33631), (46, 33640), (53, 33682), (55, 33697), (65, 33784), (76, 33889), (77, 33898), (85, 33943), (89, 33970), (91, 33982), (96, 34012), (99, 34024), (101, 34039), (104, 34066), (106, 34087), (108, 34120), (110, 34135), (111, 34138), (113, 34150), (115, 34159), (124, 34207), (125, 34213), (134, 34264), (139, 34288), (143, 34321), (144, 34324), (148, 34354), (150, 34360), (155, 34432), (157, 34450), (158, 34459), (164, 34507), (165, 34516),

Gene: SchottB_48 Start: 43080, Stop: 44102, Start Num: 17

Candidate Starts for SchottB_48:

(Start: 17 @43080 has 61 MA's), (24, 43116), (33, 43170), (38, 43194), (42, 43224), (48, 43254), (53, 43287), (55, 43302), (65, 43383), (71, 43431), (72, 43446), (73, 43449), (93, 43593), (99, 43626), (101, 43641), (108, 43710), (110, 43725), (122, 43782), (124, 43797),

Gene: Scioto_52 Start: 43589, Stop: 44629, Start Num: 17

Candidate Starts for Scioto_52:

(Start: 17 @43589 has 61 MA's), (33, 43679), (38, 43703), (39, 43715), (42, 43733), (55, 43811), (59, 43844), (82, 44018), (93, 44084), (101, 44132), (108, 44204), (110, 44219), (114, 44240), (118, 44261), (119, 44264), (137, 44369), (141, 44402), (142, 44414), (159, 44561), (163, 44597),

Gene: Scitech_45 Start: 31494, Stop: 32558, Start Num: 19

Candidate Starts for Scitech_45:

(Start: 19 @31494 has 14 MA's), (22, 31506), (30, 31572), (31, 31575), (33, 31581), (38, 31605), (40, 31626), (41, 31632), (43, 31644), (44, 31647), (46, 31656), (53, 31698), (55, 31713), (65, 31800), (76, 31905), (77, 31914), (85, 31959), (89, 31986), (91, 31998), (96, 32028), (99, 32040), (101, 32055), (104, 32082), (106, 32103), (108, 32136), (110, 32151), (111, 32154), (113, 32166), (115, 32175), (124, 32223), (125, 32229), (134, 32280), (139, 32304), (143, 32337), (144, 32340), (148, 32370), (150, 32376), (157, 32469), (158, 32478), (161, 32502), (165, 32535),

Gene: Shade_35 Start: 29715, Stop: 30578, Start Num: 17

Candidate Starts for Shade_35:

(Start: 17 @29715 has 61 MA's), (33, 29805), (34, 29808), (38, 29829), (46, 29880), (55, 29937), (68, 30042), (80, 30132), (82, 30144), (85, 30159), (99, 30237), (102, 30264), (104, 30279), (107, 30321), (108, 30339), (111, 30357), (115, 30378), (118, 30396), (132, 30465), (136, 30483), (147, 30555),

Gene: Shipwreck_50 Start: 34832, Stop: 35806, Start Num: 23

Candidate Starts for Shipwreck_50:

(Start: 23 @34832 has 22 MA's), (25, 34850), (33, 34898), (41, 34949), (46, 34973), (62, 35084), (78, 35219), (98, 35330), (99, 35333), (103, 35372), (107, 35396), (108, 35414), (116, 35459), (123, 35489), (124, 35501), (134, 35558), (145, 35627), (155, 35726), (160, 35774),

Gene: Sicarius2_36 Start: 29347, Stop: 30198, Start Num: 17

Candidate Starts for Sicarius2_36:

(Start: 17 @29347 has 61 MA's), (34, 29440), (37, 29455), (38, 29461), (42, 29491), (46, 29512), (55, 29569), (68, 29674), (75, 29728), (85, 29791), (99, 29869), (104, 29911), (107, 29950), (108, 29968), (111, 29986), (115, 30007), (118, 30025), (124, 30055),

Gene: Silvafighter_49 Start: 33451, Stop: 34512, Start Num: 19

Candidate Starts for Silvafighter_49:

(Start: 19 @33451 has 14 MA's), (22, 33463), (30, 33529), (31, 33532), (33, 33538), (38, 33562), (40, 33583), (41, 33589), (43, 33601), (44, 33604), (46, 33613), (53, 33655), (55, 33670), (65, 33757), (76, 33862), (77, 33871), (85, 33916), (89, 33943), (91, 33955), (96, 33985), (99, 33997), (101, 34012), (104, 34039), (106, 34060), (108, 34093), (110, 34108), (111, 34111), (113, 34123), (115, 34132), (124, 34180), (125, 34186), (134, 34237), (139, 34261), (143, 34294), (144, 34297), (148, 34327), (150, 34333), (155, 34405), (157, 34423), (158, 34432), (164, 34480), (165, 34489),

Gene: Sitar_51 Start: 44231, Stop: 45241, Start Num: 17

Candidate Starts for Sitar_51:

(1, 43880), (3, 43988), (7, 44090), (Start: 9 @44177 has 1 MA's), (Start: 17 @44231 has 61 MA's), (24, 44267), (33, 44318), (35, 44324), (38, 44342), (42, 44372), (53, 44435), (55, 44450), (65, 44531), (72, 44594), (93, 44741), (99, 44774), (101, 44789), (108, 44858), (110, 44873), (122, 44930), (124, 44945), (154, 45134), (163, 45206),

Gene: SkinnyPete_45 Start: 31602, Stop: 32585, Start Num: 23

Candidate Starts for SkinnyPete_45:

(Start: 23 @31602 has 22 MA's), (33, 31668), (36, 31680), (41, 31719), (50, 31761), (62, 31854), (78, 31989), (97, 32097), (98, 32100), (99, 32103), (103, 32142), (107, 32166), (108, 32184), (112, 32211), (115, 32223), (123, 32259), (124, 32271), (134, 32328), (145, 32403), (155, 32505), (160, 32553),

Gene: Smurph_48 Start: 33478, Stop: 34539, Start Num: 19

Candidate Starts for Smurph_48:

(Start: 19 @33478 has 14 MA's), (22, 33490), (30, 33556), (31, 33559), (33, 33565), (38, 33589), (40, 33610), (41, 33616), (43, 33628), (44, 33631), (46, 33640), (53, 33682), (55, 33697), (65, 33784), (76, 33889), (77, 33898), (85, 33943), (89, 33970), (91, 33982), (96, 34012), (99, 34024), (101, 34039), (104, 34066), (106, 34087), (108, 34120), (110, 34135), (111, 34138), (113, 34150), (115, 34159), (124, 34207), (125, 34213), (134, 34264), (139, 34288), (143, 34321), (144, 34324), (148, 34354), (150, 34360), (155, 34432), (157, 34450), (158, 34459), (164, 34507), (165, 34516),

Gene: Sonah_47 Start: 32529, Stop: 33503, Start Num: 23

Candidate Starts for Sonah_47:

(Start: 23 @32529 has 22 MA's), (25, 32547), (33, 32595), (41, 32646), (46, 32670), (62, 32781), (78, 32916), (98, 33027), (99, 33030), (103, 33069), (107, 33093), (108, 33111), (116, 33156), (123, 33186), (124, 33198), (134, 33255), (145, 33324), (155, 33423), (160, 33471),

Gene: Sonny_35 Start: 29745, Stop: 30608, Start Num: 17

Candidate Starts for Sonny_35:

(Start: 17 @29745 has 61 MA's), (33, 29835), (34, 29838), (38, 29859), (46, 29910), (55, 29967), (68, 30072), (80, 30162), (82, 30174), (85, 30189), (99, 30267), (102, 30294), (104, 30309), (107, 30351), (108, 30369), (111, 30387), (115, 30408), (118, 30426), (132, 30495), (136, 30513), (147, 30585),

Gene: StevieBAY_35 Start: 29827, Stop: 30672, Start Num: 17

Candidate Starts for StevieBAY_35:

(Start: 17 @29827 has 61 MA's), (33, 29920), (34, 29923), (38, 29944), (42, 29974), (55, 30052), (61, 30109), (68, 30157), (74, 30208), (75, 30211), (76, 30226), (81, 30256), (85, 30274), (87, 30292), (99, 30352), (104, 30394), (107, 30433), (108, 30451), (111, 30469), (115, 30490), (118, 30508), (132, 30577), (133, 30589), (136, 30595),

Gene: StevieRay_46 Start: 32502, Stop: 33476, Start Num: 23

Candidate Starts for StevieRay_46:

(Start: 23 @32502 has 22 MA's), (25, 32520), (33, 32568), (41, 32619), (44, 32634), (46, 32643), (62, 32754), (78, 32889), (98, 33000), (99, 33003), (103, 33042), (107, 33066), (108, 33084), (116, 33129), (123, 33159), (124, 33171), (134, 33228), (145, 33297), (155, 33396), (160, 33444),

Gene: StorminNorm_49 Start: 42171, Stop: 43193, Start Num: 17

Candidate Starts for StorminNorm_49:

(Start: 17 @42171 has 61 MA's), (24, 42207), (33, 42261), (38, 42285), (42, 42315), (48, 42345), (53, 42378), (55, 42393), (65, 42474), (71, 42522), (72, 42537), (73, 42540), (93, 42684), (99, 42717), (101, 42732), (108, 42801), (110, 42816), (122, 42873), (124, 42888),

Gene: StressBall_46 Start: 32800, Stop: 33774, Start Num: 23

Candidate Starts for StressBall_46:

(Start: 23 @32800 has 22 MA's), (25, 32818), (33, 32866), (41, 32917), (44, 32932), (46, 32941), (62, 33052), (78, 33187), (98, 33298), (99, 33301), (103, 33340), (107, 33364), (108, 33382), (116, 33427), (123, 33457), (124, 33469), (134, 33526), (145, 33595), (155, 33694), (160, 33742),

Gene: TaeYoung_35 Start: 29743, Stop: 30591, Start Num: 17

Candidate Starts for TaeYoung_35:

(Start: 17 @29743 has 61 MA's), (33, 29833), (34, 29836), (38, 29857), (41, 29884), (42, 29887), (55, 29965), (61, 30022), (68, 30070), (74, 30121), (75, 30124), (85, 30187), (87, 30205), (99, 30265), (104, 30307), (107, 30346), (108, 30364), (111, 30382), (115, 30403), (118, 30421), (124, 30451), (133, 30502), (147, 30568),

Gene: Tangerine_49 Start: 41949, Stop: 42971, Start Num: 17

Candidate Starts for Tangerine_49:

(Start: 17 @41949 has 61 MA's), (33, 42039), (38, 42063), (42, 42093), (48, 42123), (53, 42156), (55, 42171), (71, 42300), (72, 42315), (73, 42318), (93, 42462), (99, 42495), (101, 42510), (108, 42579), (109, 42585), (110, 42594), (122, 42651), (124, 42666),

Gene: Tapioca_50 Start: 33444, Stop: 34505, Start Num: 19

Candidate Starts for Tapioca_50:

(Start: 19 @33444 has 14 MA's), (22, 33456), (30, 33522), (31, 33525), (33, 33531), (38, 33555), (40, 33576), (41, 33582), (43, 33594), (44, 33597), (46, 33606), (53, 33648), (55, 33663), (65, 33750), (76, 33855), (77, 33864), (85, 33909), (89, 33936), (91, 33948), (96, 33978), (99, 33990), (101, 34005), (104, 34032), (106, 34053), (108, 34086), (110, 34101), (111, 34104), (113, 34116), (115, 34125), (124, 34173), (125, 34179), (134, 34230), (139, 34254), (143, 34287), (144, 34290), (148, 34320), (150, 34326), (155, 34398), (157, 34416), (158, 34425), (164, 34473), (165, 34482),

Gene: TaylorSipht_39 Start: 26156, Stop: 26953, Start Num: 14

Candidate Starts for TaylorSipht_39:

(Start: 14 @26156 has 10 MA's), (29, 26246), (30, 26249), (33, 26258), (42, 26312), (60, 26429), (84, 26642), (91, 26687), (108, 26807), (112, 26834), (122, 26879), (123, 26882), (126, 26906),

Gene: Thespis_46 Start: 32536, Stop: 33510, Start Num: 23

Candidate Starts for Thespiis_46:

(Start: 23 @32536 has 22 MA's), (25, 32554), (33, 32602), (41, 32653), (44, 32668), (46, 32677), (62, 32788), (78, 32923), (98, 33034), (99, 33037), (103, 33076), (107, 33100), (108, 33118), (116, 33163), (123, 33193), (124, 33205), (134, 33262), (145, 33331), (155, 33430), (160, 33478),

Gene: Tiamoceli_48 Start: 40223, Stop: 41281, Start Num: 17

Candidate Starts for Tiamoceli_48:

(12, 40193), (Start: 17 @40223 has 61 MA's), (33, 40310), (38, 40334), (42, 40364), (53, 40427), (55, 40442), (59, 40475), (72, 40586), (75, 40613), (82, 40667), (93, 40733), (96, 40754), (99, 40766), (101, 40781), (108, 40865), (111, 40883), (114, 40901), (118, 40922), (124, 40952), (141, 41063), (153, 41168), (156, 41189), (162, 41246), (163, 41252),

Gene: Timinator_35 Start: 29826, Stop: 30671, Start Num: 17

Candidate Starts for Timinator_35:

(Start: 17 @29826 has 61 MA's), (33, 29919), (34, 29922), (38, 29943), (42, 29973), (55, 30051), (61, 30108), (68, 30156), (74, 30207), (75, 30210), (76, 30225), (85, 30273), (87, 30291), (99, 30351), (104, 30393), (107, 30432), (108, 30450), (111, 30468), (115, 30489), (118, 30507), (124, 30537), (132, 30576), (133, 30588), (136, 30594),

Gene: TripleJ_55 Start: 33927, Stop: 34802, Start Num: 17

Candidate Starts for TripleJ_55:

(Start: 17 @33927 has 61 MA's), (33, 34017), (39, 34053), (45, 34089), (52, 34128), (55, 34149), (62, 34203), (73, 34278), (86, 34368), (90, 34395), (91, 34404), (92, 34407), (94, 34416), (99, 34443), (100, 34449), (107, 34506), (108, 34524), (114, 34560), (115, 34563), (131, 34632), (143, 34716),

Gene: Twonlo_45 Start: 38853, Stop: 39911, Start Num: 17

Candidate Starts for Twonlo_45:

(12, 38823), (Start: 17 @38853 has 61 MA's), (33, 38940), (38, 38964), (42, 38994), (53, 39057), (55, 39072), (59, 39105), (72, 39216), (75, 39243), (82, 39297), (93, 39363), (96, 39384), (99, 39396), (101, 39411), (108, 39495), (111, 39513), (114, 39531), (118, 39552), (124, 39582), (141, 39693), (153, 39798), (156, 39819), (162, 39876), (163, 39882),

Gene: Tycho_49 Start: 42039, Stop: 43061, Start Num: 17

Candidate Starts for Tycho_49:

(Start: 17 @42039 has 61 MA's), (24, 42075), (33, 42129), (38, 42153), (42, 42183), (48, 42213), (53, 42246), (55, 42261), (65, 42342), (71, 42390), (72, 42405), (73, 42408), (93, 42552), (99, 42585), (101, 42600), (108, 42669), (110, 42684), (122, 42741), (124, 42756),

Gene: ValentiniPuff_98 Start: 56073, Stop: 56969, Start Num: 18

Candidate Starts for ValentiniPuff_98:

(Start: 18 @56073 has 1 MA's), (29, 56163), (54, 56310), (57, 56328), (88, 56592), (91, 56607), (96, 56637), (105, 56721), (108, 56757), (111, 56775), (131, 56877),

Gene: ViaConlectus_51 Start: 42237, Stop: 43280, Start Num: 17

Candidate Starts for ViaConlectus_51:

(Start: 17 @42237 has 61 MA's), (33, 42330), (38, 42354), (39, 42366), (42, 42384), (55, 42462), (59, 42495), (82, 42669), (93, 42735), (101, 42783), (108, 42855), (110, 42870), (114, 42891), (118, 42912), (119, 42915), (137, 43020), (141, 43053), (142, 43065), (159, 43212), (163, 43248),

Gene: Vivi2_55 Start: 44459, Stop: 45457, Start Num: 17

Candidate Starts for Vivi2_55:

(3, 44216), (7, 44318), (Start: 9 @44405 has 1 MA's), (Start: 17 @44459 has 61 MA's), (24, 44495), (33, 44546), (35, 44552), (38, 44570), (42, 44600), (53, 44663), (55, 44678), (61, 44729), (71, 44807),

(93, 44969), (99, 45002), (101, 45017), (108, 45086), (110, 45101), (122, 45158), (124, 45173), (154, 45350), (163, 45422),

Gene: Vulpecula_38 Start: 26463, Stop: 27269, Start Num: 14

Candidate Starts for Vulpecula_38:

(Start: 14 @26463 has 10 MA's), (30, 26559), (33, 26568), (39, 26604), (42, 26622), (77, 26916), (83, 26952), (99, 27042), (108, 27123), (130, 27237),

Gene: Willsammy_45 Start: 32283, Stop: 33257, Start Num: 23

Candidate Starts for Willsammy_45:

(Start: 23 @32283 has 22 MA's), (25, 32301), (33, 32349), (41, 32400), (44, 32415), (46, 32424), (62, 32535), (78, 32670), (98, 32781), (99, 32784), (103, 32823), (107, 32847), (108, 32865), (116, 32910), (123, 32940), (124, 32952), (134, 33009), (145, 33078), (155, 33177), (160, 33225),

Gene: Wyborn_36 Start: 29985, Stop: 30836, Start Num: 17

Candidate Starts for Wyborn_36:

(Start: 17 @29985 has 61 MA's), (34, 30078), (37, 30093), (38, 30099), (42, 30129), (46, 30150), (55, 30207), (68, 30312), (75, 30366), (85, 30429), (99, 30507), (104, 30549), (108, 30606), (111, 30624), (115, 30645), (118, 30663), (124, 30693), (127, 30705),

Gene: Xeno_48 Start: 31878, Stop: 32852, Start Num: 23

Candidate Starts for Xeno_48:

(Start: 23 @31878 has 22 MA's), (25, 31896), (33, 31944), (41, 31995), (44, 32010), (46, 32019), (62, 32130), (78, 32265), (98, 32376), (99, 32379), (103, 32418), (107, 32442), (108, 32460), (116, 32505), (123, 32535), (124, 32547), (134, 32604), (145, 32673), (155, 32772), (160, 32820),

Gene: Xerxes_48 Start: 33475, Stop: 34536, Start Num: 19

Candidate Starts for Xerxes_48:

(Start: 19 @33475 has 14 MA's), (22, 33487), (30, 33553), (31, 33556), (33, 33562), (38, 33586), (40, 33607), (41, 33613), (43, 33625), (44, 33628), (46, 33637), (53, 33679), (55, 33694), (65, 33781), (76, 33886), (77, 33895), (85, 33940), (89, 33967), (91, 33979), (96, 34009), (99, 34021), (101, 34036), (104, 34063), (106, 34084), (108, 34117), (110, 34132), (111, 34135), (113, 34147), (115, 34156), (124, 34204), (125, 34210), (134, 34261), (139, 34285), (143, 34318), (144, 34321), (148, 34351), (150, 34357), (155, 34429), (157, 34447), (158, 34456), (164, 34504), (165, 34513),

Gene: YorkOnyx_51 Start: 42735, Stop: 43757, Start Num: 17

Candidate Starts for YorkOnyx_51:

(3, 42492), (7, 42594), (Start: 9 @42681 has 1 MA's), (Start: 17 @42735 has 61 MA's), (24, 42771), (33, 42825), (38, 42849), (42, 42879), (48, 42909), (53, 42942), (55, 42957), (65, 43038), (71, 43086), (72, 43101), (73, 43104), (93, 43248), (99, 43281), (101, 43296), (108, 43365), (110, 43380), (122, 43437),

Gene: Zartrosa_35 Start: 29654, Stop: 30517, Start Num: 17

Candidate Starts for Zartrosa_35:

(Start: 17 @29654 has 61 MA's), (33, 29744), (34, 29747), (38, 29768), (46, 29819), (55, 29876), (68, 29981), (80, 30071), (82, 30083), (85, 30098), (99, 30176), (102, 30203), (104, 30218), (107, 30260), (108, 30278), (111, 30296), (115, 30317), (118, 30335), (132, 30404), (136, 30422), (147, 30494),