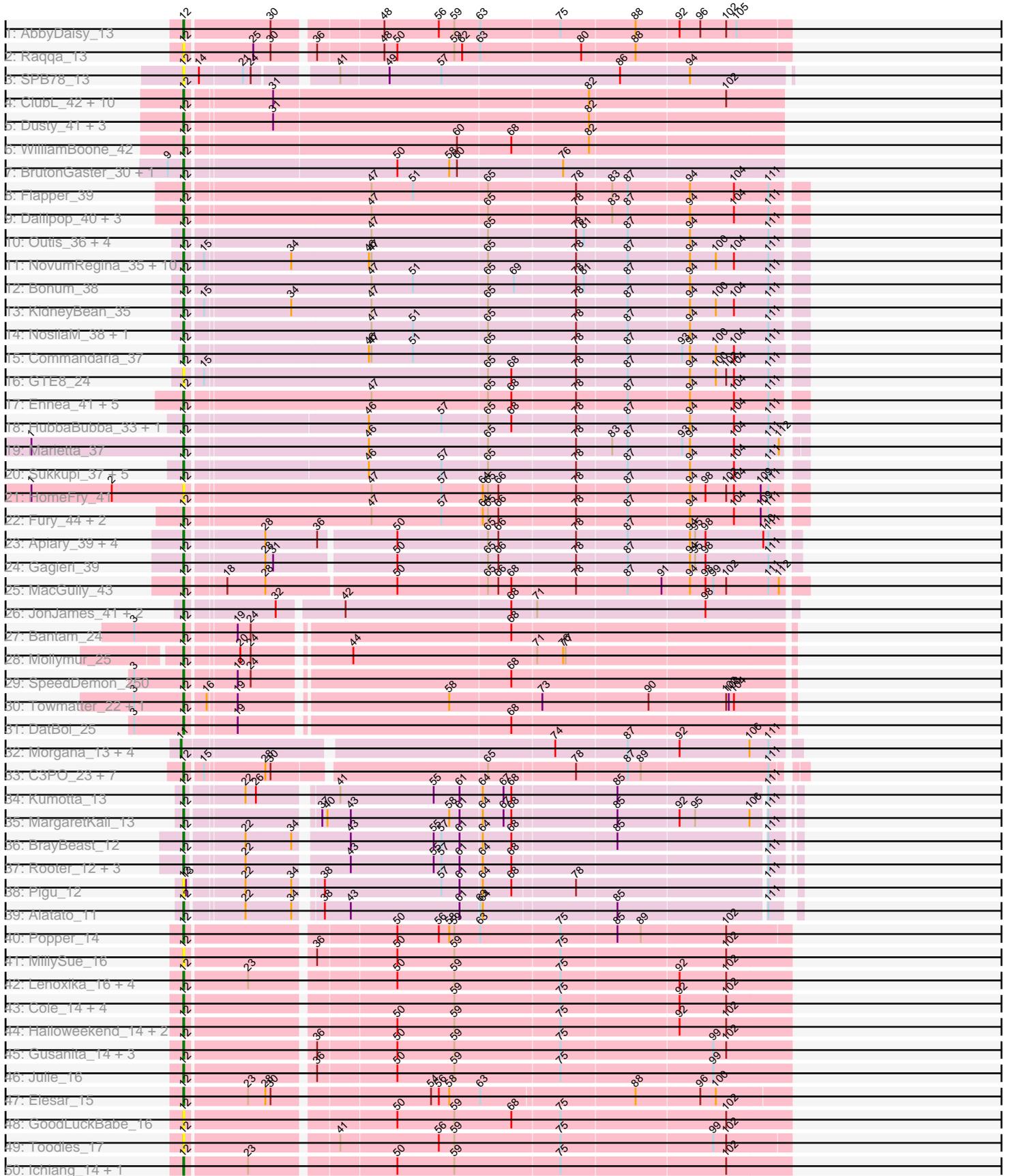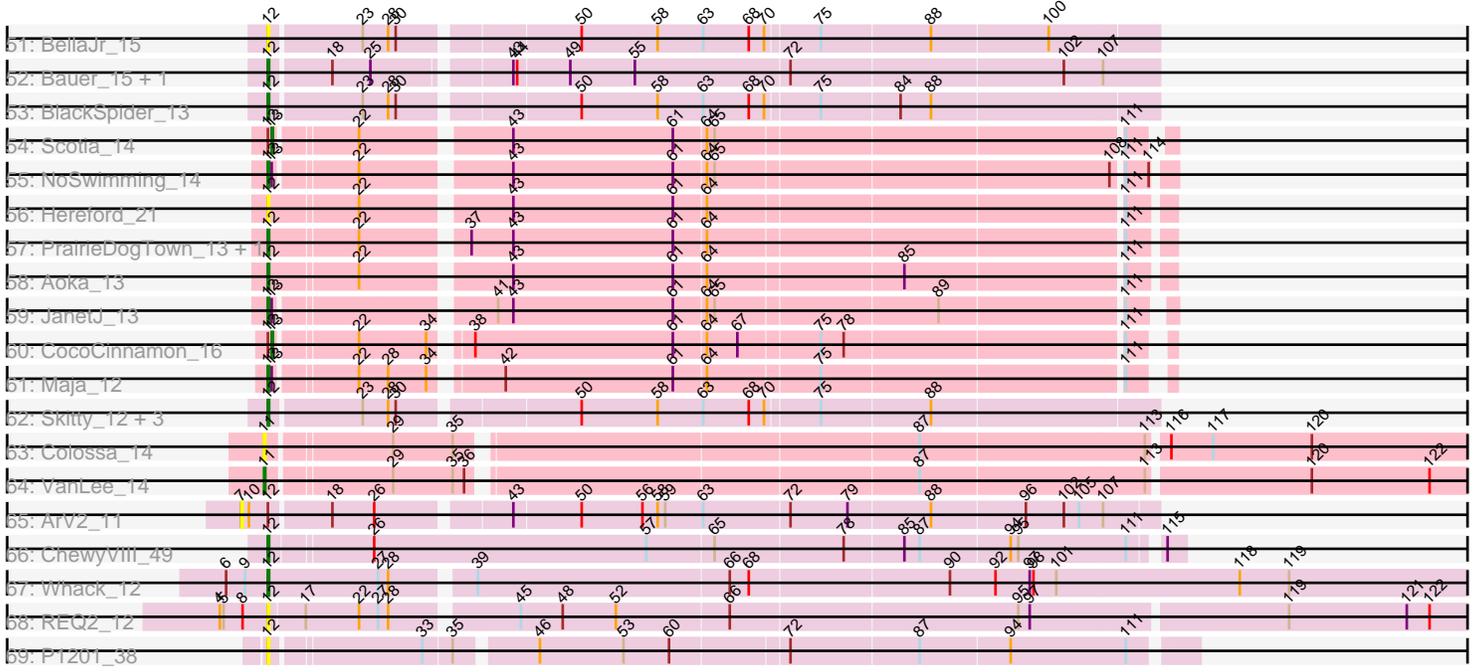Pham 290904

Pham 290904

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 290904 Report

This analysis was run 03/28/26 on database version 641.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 290904 has 154 members, 29 are drafts.

Phages represented in each track:
• Track 1 : AbbyDaisy_13
• Track 2 : Raqqa_13
• Track 3 : SPB78_13
• Track 4 : ClubL_42, Geeche_41, Lozinak_42, Engineer_43, Toniann_42, Bachita_44, Norvs_43, Cucurbita_44, Aphelion_42, Smoothie_43, PhinkBoden_42
• Track 5 : Dusty_41, Miskis_40, Abscondus_41, Culver_42
• Track 6 : WilliamBoone_42
• Track 7 : BrutonGaster_30, OneUp_36
• Track 8 : Flapper_39
• Track 9 : Dalilpop_40, Turuncu_39, GRU1_25, GTE5_26
• Track 10 : Outis_36, Buggaboo_36, StarStruck_36, MerCougar_36, SuperSulley_36
• Track 11 : NovumRegina_35, GrootJr_37, Jifall16_34, Foxboro_36, Wheezy_35, Tracker_35, Arti_35, NatB6_35, Kurt_35, Phomeo_34, Emianna_35
• Track 12 : Bonum_38
• Track 13 : KidneyBean_35
• Track 14 : NosilaM_38, Kabluna_38
• Track 15 : Commandaria_37
• Track 16 : GTE8_24
• Track 17 : Ennea_41, Patio_38, Lollipop1437_40, RedRaider_42, Float294_37, Skysand_37
• Track 18 : HubbaBubba_33, WhoseManz_37
• Track 19 : Marietta_37
• Track 20 : Sukkupi_37, Pemberton_38, BiPauneto_38, NadineRae_35, Yndexa_37, IDyn_36
• Track 21 : HomeFry_41
• Track 22 : Fury_44, Scuba_44, Pleakley_44
• Track 23 : Apiary_39, Polyyuki_39, Maselop_39, CoffeeBean_39, Braxoaddie_39
• Track 24 : Gagieri_39
• Track 25 : MacGully_43
• Track 26 : JonJames_41, Cardigan_41, Yvonnetastic_39
• Track 27 : Bantam_24
• Track 28 : Mollymur_25
• Track 29 : SpeedDemon_250

- Track 30 : Towmatter_22, Daredevil_23
- Track 31 : DatBoi_25
- Track 32 : Morgana_13, ModicumRichard_13, ObLaDi_13, Cafasso_13, Aleemily_13
- Track 33 : C3PO_23, Cruella_23, Darwin_26, PotatoChip_23, Kimchi1738_23, Stickynote_25, Zion_23, PeteyPab_22
- Track 34 : Kumotta_13
- Track 35 : MargaretKali_13
- Track 36 : BrayBeast_12
- Track 37 : Rooter_12, Sarge_12, Shoya_11, JeanClaude_12
- Track 38 : Pigu_12
- Track 39 : Alatato_11
- Track 40 : Popper_14
- Track 41 : MillySue_16
- Track 42 : Lenoxika_16, Schism_16, Nandita_16, Guinevere_16, Donatella_15
- Track 43 : Cole_14, QuinnAvery_16, ToastyOats_18, BigSherm_15, Kihatsu_17
- Track 44 : Halloweekend_14, Yonex_16, Ryan_16
- Track 45 : Gusanita_14, IsHungry_16, AllBusiness_15, Dirtdigger_16
- Track 46 : Julie_16
- Track 47 : Elesar_15
- Track 48 : GoodLuckBabe_16
- Track 49 : Toodles_17
- Track 50 : Ichiang_14, Zaheer_16
- Track 51 : BellaJr_15
- Track 52 : Bauer_15, Zucker_14
- Track 53 : BlackSpider_13
- Track 54 : Scotia_14
- Track 55 : NoSwimming_14
- Track 56 : Hereford_21
- Track 57 : PrairieDogTown_13, EvenBluerMoon_13
- Track 58 : Aoka_13
- Track 59 : JanetJ_13
- Track 60 : CocoCinnamon_16
- Track 61 : Maja_12
- Track 62 : Skitty_12, Merpity_13, MrSmee_12, Cassini_13
- Track 63 : Colossa_14
- Track 64 : VanLee_14
- Track 65 : ArV2_11
- Track 66 : ChewyVIII_49
- Track 67 : Whack_12
- Track 68 : REQ2_12
- Track 69 : P1201_38

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

The start number called the most often in the published annotations is 12, it was called in 117 of the 125 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AbbyDaisy_13, Abscondus_41, Alatato_11, AllBusiness_15, Aoka_13, Aphelion_42, Apiary_39, Arti_35, Bachita_44, Bantam_24, Bauer_15, BellaJr_15, BiPauneto_38, BigSherm_15, BlackSpider_13, Bonum_38, Braxoaddie_39, BrayBeast_12, BrutonGaster_30, Buggaboo_36, C3PO_23, Cardigan_41, Cassini_13, ChewyVIII_49, ClubL_42, CoffeeBean_39, Cole_14, Commandaria_37, Cruella_23, Cucurbita_44, Culver_42, Dalilpop_40, Daredevil_23, Darwin_26, DatBoi_25, Dirtdigger_16, Donatella_15, Dusty_41, Elesar_15, Emianna_35, Engineer_43, Ennea_41, EvenBluerMoon_13, Flapper_39, Float294_37, Foxboro_36, Fury_44, GRU1_25, GTE5_26, GTE8_24, Gagieri_39, Geeche_41, GoodLuckBabe_16, GrootJr_37, Guinevere_16, Gusanita_14, Halloweekend_14, Hereford_21, HomeFry_41, HubbaBubba_33, IDyn_36, Ichiang_14, IsHungry_16, JanetJ_13, JeanClaude_12, Jifall16_34, JonJames_41, Julie_16, Kabluna_38, KidneyBean_35, Kihatsu_17, Kimchi1738_23, Kumotta_13, Kurt_35, Lenoxika_16, Lollipop1437_40, Lozinak_42, MacGully_43, Maja_12, MargaretKali_13, Marietta_37, Maselop_39, MerCougar_36, Merpity_13, MillySue_16, Miskis_40, Mollymur_25, MrSmee_12, NadineRae_35, Nandita_16, NatB6_35, NoSwimming_14, Norvs_43, NosilaM_38, NovumRegina_35, OneUp_36, Outis_36, P1201_38, Patio_38, Pemberton_38, PeteyPab_22, PhinkBoden_42, Phomeo_34, Pigu_12, Pleakley_44, Polyyuki_39, Popper_14, PotatoChip_23, PrairieDogTown_13, QuinnAvery_16, REQ2_12, Raqqa_13, RedRaider_42, Rooter_12, Ryan_16, SPB78_13, Sarge_12, Schism_16, Scuba_44, Shoya_11, Skitty_12, Skysand_37, Smoothie_43, SpeedDemon_250, StarStruck_36, Stickynote_25, Sukkupi_37, SuperSulley_36, ToastyOats_18, Toniann_42, Toodles_17, Towmatter_22, Tracker_35, Turuncu_39, Whack_12, Wheezy_35, WhoseManz_37, WilliamBoone_42, Yndexa_37, Yonex_16, Yvonnetastic_39, Zaheer_16, Zion_23, Zucker_14,

Genes that have the "Most Annotated" start but do not call it:
• ArV2_11, CocoCinnamon_16, Scotia_14,

Genes that do not have the "Most Annotated" start:
• Aleemily_13, Cafasso_13, Colossa_14, ModicumRichard_13, Morgana_13, ObLaDi_13, VanLee_14,

Summary by start number:

Start 7:
• Found in 1 of 154 (0.6%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArV2_11 (singleton),

Start 11:
• Found in 7 of 154 (4.5%) of genes in pham
• Manual Annotations of this start: 6 of 125
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aleemily_13 (DZ), Cafasso_13 (DZ), Colossa_14 (KA), ModicumRichard_13 (DZ), Morgana_13 (DZ), ObLaDi_13 (DZ), VanLee_14 (KA),

Start 12:
• Found in 147 of 154 (95.5%) of genes in pham
• Manual Annotations of this start: 117 of 125
• Called 98.0% of time when present

• Phage (with cluster) where this start called: AbbyDaisy_13 (AY), Abscondus_41 (CQ1), Alatato_11 (FB), AllBusiness_15 (FF), Aoka_13 (FO), Aphelion_42 (CQ1), Apiary_39 (CR6), Arti_35 (CR2), Bachita_44 (CQ1), Bantam_24 (DL), Bauer_15 (FN), BellaJr_15 (FN), BiPauneto_38 (CR4), BigSherm_15 (FF), BlackSpider_13 (FN), Bonum_38 (CR2), Braxoaddie_39 (CR6), BrayBeast_12 (FB), BrutonGaster_30 (CQ2), Buggaboo_36 (CR2), C3PO_23 (EN), Cardigan_41 (DD), Cassini_13 (FN), ChewyVIII_49 (singleton), ClubL_42 (CQ1), CoffeeBean_39 (CR6), Cole_14 (FF), Commandaria_37 (CR2), Cruella_23 (EN), Cucurbita_44 (CQ1), Culver_42 (CQ1), Dalilpop_40 (CR1), Daredevil_23 (DL), Darwin_26 (EN), DatBoi_25 (DL), Dirtdigger_16 (FF), Donatella_15 (FF), Dusty_41 (CQ1), Elesar_15 (FF), Emianna_35 (CR2), Engineer_43 (CQ1), Ennea_41 (CR3), EvenBluerMoon_13 (FO), Flapper_39 (CR1), Float294_37 (CR3), Foxboro_36 (CR2), Fury_44 (CR5), GRU1_25 (CR1), GTE5_26 (CR1), GTE8_24 (CR2), Gagieri_39 (CR6), Geeche_41 (CQ1), GoodLuckBabe_16 (FF), GrootJr_37 (CR2), Guinevere_16 (FF), Gusanita_14 (FF), Halloweekend_14 (FF), Hereford_21 (FO), HomeFry_41 (CR5), HubbaBubba_33 (CR4), IDyn_36 (CR4), Ichiang_14 (FF), IsHungry_16 (FF), JanetJ_13 (FO), JeanClaude_12 (FB), Jifall16_34 (CR2), JonJames_41 (DD), Julie_16 (FF), Kabluna_38 (CR2), KidneyBean_35 (CR2), Kihatsu_17 (FF), Kimchi1738_23 (EN), Kumotta_13 (FB), Kurt_35 (CR2), Lenoxika_16 (FF), Lollipop1437_40 (CR3), Lozinak_42 (CQ1), MacGully_43 (CR7), Maja_12 (FO), MargaretKali_13 (FB), Marietta_37 (CR4), Maselop_39 (CR6), MerCougar_36 (CR2), Merpity_13 (FQ), MillySue_16 (FF), Miskis_40 (CQ1), Mollymur_25 (DL), MrSmee_12 (FQ), NadineRae_35 (CR4), Nandita_16 (FF), NatB6_35 (CR2), NoSwimming_14 (FO), Norvs_43 (CQ1), NosilaM_38 (CR2), NovumRegina_35 (CR2), OneUp_36 (CQ2), Outis_36 (CR2), P1201_38 (singleton), Patio_38 (CR3), Pemberton_38 (CR4), PeteyPab_22 (EN), PhinkBoden_42 (CQ1), Phomeo_34 (CR2), Pigu_12 (FB), Pleakley_44 (CR5), Polyyuki_39 (CR6), Popper_14 (FF), PotatoChip_23 (EN), PrairieDogTown_13 (FO), QuinnAvery_16 (FF), REQ2_12 (singleton), Raqqa_13 (AY), RedRaider_42 (CR3), Rooter_12 (FB), Ryan_16 (FF), SPB78_13 (BA), Sarge_12 (FB), Schism_16 (FF), Scuba_44 (CR5), Shoya_11 (FB), Skitty_12 (FQ), Skysand_37 (CR3), Smoothie_43 (CQ1), SpeedDemon_250 (DL), StarStruck_36 (CR2), Stickynote_25 (EN), Sukkupi_37 (CR4), SuperSulley_36 (CR2), ToastyOats_18 (FF), Toniann_42 (CQ1), Toodles_17 (FF), Towmatter_22 (DL), Tracker_35 (CR2), Turuncu_39 (CR1), Whack_12 (singleton), Wheezy_35 (CR2), WhoseManz_37 (CR4), WilliamBoone_42 (CQ1), Yndexa_37 (CR4), Yonex_16 (FF), Yvonnetastic_39 (DD), Zaheer_16 (FF), Zion_23 (EN), Zucker_14 (FN),

Start 13:
• Found in 6 of 154 (3.9%) of genes in pham
• Manual Annotations of this start: 2 of 125
• Called 33.3% of time when present
• Phage (with cluster) where this start called: CocoCinnamon_16 (FO), Scotia_14 (FO),

Summary by clusters:

There are 22 clusters represented in this pham: FQ, DL, BA, DD, singleton, FB, DZ, FF, FN, FO, CQ2, CQ1, EN, AY, CR2, CR3, KA, CR1, CR6, CR7, CR4, CR5,

Info for manual annotations of cluster AY:
•Start number 12 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster CQ1:
•Start number 12 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:
•Start number 12 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CR1:
•Start number 12 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:
•Start number 12 was manually annotated 21 times for cluster CR2.

Info for manual annotations of cluster CR3:
•Start number 12 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:
•Start number 12 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:
•Start number 12 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CR6:
•Start number 12 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:
•Start number 12 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster DD:
•Start number 12 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:
•Start number 12 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DZ:
•Start number 11 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster EN:
•Start number 12 was manually annotated 8 times for cluster EN.

Info for manual annotations of cluster FB:
•Start number 12 was manually annotated 6 times for cluster FB.

Info for manual annotations of cluster FF:
•Start number 12 was manually annotated 17 times for cluster FF.

Info for manual annotations of cluster FN:
•Start number 12 was manually annotated 3 times for cluster FN.

Info for manual annotations of cluster FO:
•Start number 12 was manually annotated 6 times for cluster FO.
•Start number 13 was manually annotated 2 times for cluster FO.

Info for manual annotations of cluster FQ:

•Start number 12 was manually annotated 2 times for cluster FQ.

Info for manual annotations of cluster KA:
•Start number 11 was manually annotated 1 time for cluster KA.

Gene Information:

Gene: AbbyDaisy_13 Start: 7857, Stop: 8522, Start Num: 12
Candidate Starts for AbbyDaisy_13:
(Start: 12 @7857 has 117 MA's), (30, 7950), (48, 8064), (56, 8127), (59, 8145), (63, 8175), (75, 8265), (88, 8349), (92, 8397), (96, 8421), (102, 8451), (105, 8463),

Gene: Abscondus_41 Start: 17642, Stop: 18307, Start Num: 12
Candidate Starts for Abscondus_41:
(Start: 12 @17642 has 117 MA's), (31, 17732), (82, 18089),

Gene: Alatato_11 Start: 7604, Stop: 8251, Start Num: 12
Candidate Starts for Alatato_11:
(Start: 12 @7604 has 117 MA's), (22, 7664), (34, 7715), (38, 7736), (43, 7766), (61, 7892), (63, 7913), (64, 7916), (85, 8063), (111, 8228),

Gene: Aleemily_13 Start: 8905, Stop: 9573, Start Num: 11
Candidate Starts for Aleemily_13:
(Start: 11 @8905 has 6 MA's), (74, 9307), (87, 9388), (92, 9445), (106, 9526), (111, 9547),

Gene: AllBusiness_15 Start: 9307, Stop: 9975, Start Num: 12
Candidate Starts for AllBusiness_15:
(Start: 12 @9307 has 117 MA's), (36, 9442), (50, 9529), (59, 9595), (75, 9715), (99, 9886), (102, 9901),

Gene: Aoka_13 Start: 9111, Stop: 9773, Start Num: 12
Candidate Starts for Aoka_13:
(Start: 12 @9111 has 117 MA's), (22, 9177), (43, 9282), (61, 9408), (64, 9432), (85, 9579), (111, 9744),

Gene: Aphelion_42 Start: 17911, Stop: 18576, Start Num: 12
Candidate Starts for Aphelion_42:
(Start: 12 @17911 has 117 MA's), (31, 18001), (82, 18358), (102, 18511),

Gene: Apiary_39 Start: 23228, Stop: 23896, Start Num: 12
Candidate Starts for Apiary_39:
(Start: 12 @23228 has 117 MA's), (28, 23309), (36, 23366), (50, 23450), (65, 23552), (66, 23564), (78, 23651), (87, 23708), (94, 23777), (95, 23783), (98, 23795), (110, 23861), (111, 23867),

Gene: ArV2_11 Start: 7388, Stop: 8074, Start Num: 7
Candidate Starts for ArV2_11:
(7, 7388), (10, 7394), (Start: 12 @7409 has 117 MA's), (18, 7454), (26, 7487), (43, 7580), (50, 7631), (56, 7679), (58, 7691), (59, 7697), (63, 7727), (72, 7793), (79, 7838), (88, 7901), (96, 7973), (102, 8003), (105, 8015), (107, 8033),

Gene: Arti_35 Start: 21382, Stop: 22065, Start Num: 12
Candidate Starts for Arti_35:

(Start: 12 @21382 has 117 MA's), (15, 21400), (34, 21493), (46, 21580), (47, 21583), (65, 21715), (78, 21814), (87, 21871), (94, 21940), (100, 21970), (104, 21991), (111, 22030),

Gene: Bachita_44 Start: 18344, Stop: 19009, Start Num: 12
Candidate Starts for Bachita_44:
(Start: 12 @18344 has 117 MA's), (31, 18434), (82, 18791), (102, 18944),

Gene: Bantam_24 Start: 15333, Stop: 15989, Start Num: 12
Candidate Starts for Bantam_24:
(3, 15276), (Start: 12 @15333 has 117 MA's), (19, 15384), (24, 15399), (68, 15678),

Gene: Bauer_15 Start: 9233, Stop: 9898, Start Num: 12
Candidate Starts for Bauer_15:
(Start: 12 @9233 has 117 MA's), (18, 9278), (25, 9308), (43, 9401), (44, 9404), (49, 9443), (55, 9494), (72, 9614), (102, 9824), (107, 9854),

Gene: BellaJr_15 Start: 9265, Stop: 9927, Start Num: 12
Candidate Starts for BellaJr_15:
(Start: 12 @9265 has 117 MA's), (23, 9334), (28, 9352), (30, 9358), (50, 9487), (58, 9547), (63, 9583), (68, 9619), (70, 9631), (75, 9670), (88, 9754), (100, 9844),

Gene: BiPauneto_38 Start: 21225, Stop: 21905, Start Num: 12
Candidate Starts for BiPauneto_38:
(Start: 12 @21225 has 117 MA's), (46, 21420), (57, 21504), (65, 21555), (78, 21654), (87, 21711), (94, 21780), (104, 21831), (111, 21870),

Gene: BigSherm_15 Start: 9252, Stop: 9920, Start Num: 12
Candidate Starts for BigSherm_15:
(Start: 12 @9252 has 117 MA's), (59, 9540), (75, 9660), (92, 9792), (102, 9846),

Gene: BlackSpider_13 Start: 8260, Stop: 8922, Start Num: 12
Candidate Starts for BlackSpider_13:
(Start: 12 @8260 has 117 MA's), (23, 8329), (28, 8347), (30, 8353), (50, 8482), (58, 8542), (63, 8578), (68, 8614), (70, 8626), (75, 8665), (84, 8725), (88, 8749),

Gene: Bonum_38 Start: 21700, Stop: 22383, Start Num: 12
Candidate Starts for Bonum_38:
(Start: 12 @21700 has 117 MA's), (47, 21901), (51, 21949), (65, 22033), (69, 22063), (78, 22132), (81, 22141), (87, 22189), (94, 22258), (111, 22348),

Gene: Braxoaddie_39 Start: 23217, Stop: 23885, Start Num: 12
Candidate Starts for Braxoaddie_39:
(Start: 12 @23217 has 117 MA's), (28, 23298), (36, 23355), (50, 23439), (65, 23541), (66, 23553), (78, 23640), (87, 23697), (94, 23766), (95, 23772), (98, 23784), (110, 23850), (111, 23856),

Gene: BrayBeast_12 Start: 8007, Stop: 8660, Start Num: 12
Candidate Starts for BrayBeast_12:
(Start: 12 @8007 has 117 MA's), (22, 8067), (34, 8118), (43, 8172), (55, 8268), (57, 8277), (61, 8298), (64, 8322), (68, 8355), (85, 8469), (111, 8634),

Gene: BrutonGaster_30 Start: 14524, Stop: 15189, Start Num: 12
Candidate Starts for BrutonGaster_30:
(9, 14506), (Start: 12 @14524 has 117 MA's), (50, 14755), (58, 14815), (60, 14824), (76, 14941),

Gene: Buggaboo_36 Start: 22185, Stop: 22868, Start Num: 12
Candidate Starts for Buggaboo_36:
(Start: 12 @22185 has 117 MA's), (47, 22386), (65, 22518), (78, 22617), (81, 22626), (87, 22674), (94, 22743), (111, 22833),

Gene: C3PO_23 Start: 15961, Stop: 16623, Start Num: 12
Candidate Starts for C3PO_23:
(Start: 12 @15961 has 117 MA's), (15, 15979), (28, 16042), (30, 16048), (65, 16282), (78, 16378), (87, 16435), (89, 16450), (111, 16594),

Gene: Cafasso_13 Start: 8905, Stop: 9573, Start Num: 11
Candidate Starts for Cafasso_13:
(Start: 11 @8905 has 6 MA's), (74, 9307), (87, 9388), (92, 9445), (106, 9526), (111, 9547),

Gene: Cardigan_41 Start: 19485, Stop: 20150, Start Num: 12
Candidate Starts for Cardigan_41:
(Start: 12 @19485 has 117 MA's), (32, 19578), (42, 19647), (68, 19836), (71, 19863), (98, 20052),

Gene: Cassini_13 Start: 8229, Stop: 8891, Start Num: 12
Candidate Starts for Cassini_13:
(Start: 12 @8229 has 117 MA's), (23, 8298), (28, 8316), (30, 8322), (50, 8451), (58, 8511), (63, 8547), (68, 8583), (70, 8595), (75, 8634), (88, 8718),

Gene: ChewyVIII_49 Start: 28800, Stop: 29486, Start Num: 12
Candidate Starts for ChewyVIII_49:
(Start: 12 @28800 has 117 MA's), (26, 28875), (57, 29088), (65, 29139), (78, 29238), (85, 29283), (87, 29295), (94, 29364), (95, 29370), (111, 29454), (115, 29472),

Gene: ClubL_42 Start: 17833, Stop: 18498, Start Num: 12
Candidate Starts for ClubL_42:
(Start: 12 @17833 has 117 MA's), (31, 17923), (82, 18280), (102, 18433),

Gene: CocoCinnamon_16 Start: 9349, Stop: 9993, Start Num: 13
Candidate Starts for CocoCinnamon_16:
(Start: 12 @9346 has 117 MA's), (Start: 13 @9349 has 2 MA's), (22, 9406), (34, 9457), (38, 9478), (61, 9634), (64, 9658), (67, 9682), (75, 9742), (78, 9760), (111, 9970),

Gene: CoffeeBean_39 Start: 23172, Stop: 23840, Start Num: 12
Candidate Starts for CoffeeBean_39:
(Start: 12 @23172 has 117 MA's), (28, 23253), (36, 23310), (50, 23394), (65, 23496), (66, 23508), (78, 23595), (87, 23652), (94, 23721), (95, 23727), (98, 23739), (110, 23805), (111, 23811),

Gene: Cole_14 Start: 8911, Stop: 9579, Start Num: 12
Candidate Starts for Cole_14:
(Start: 12 @8911 has 117 MA's), (59, 9199), (75, 9319), (92, 9451), (102, 9505),

Gene: Colossa_14 Start: 8718, Stop: 9617, Start Num: 11
Candidate Starts for Colossa_14:
(Start: 11 @8718 has 6 MA's), (29, 8808), (35, 8853), (87, 9195), (113, 9369), (116, 9381), (117, 9414), (120, 9492),

Gene: Commandaria_37 Start: 22702, Stop: 23388, Start Num: 12

Candidate Starts for Commandaria_37:
(Start: 12 @22702 has 117 MA's), (46, 22900), (47, 22903), (51, 22951), (65, 23035), (78, 23134), (87, 23191), (93, 23251), (94, 23260), (100, 23290), (104, 23311), (111, 23350),

Gene: Cruella_23 Start: 15961, Stop: 16623, Start Num: 12
Candidate Starts for Cruella_23:
(Start: 12 @15961 has 117 MA's), (15, 15979), (28, 16042), (30, 16048), (65, 16282), (78, 16378), (87, 16435), (89, 16450), (111, 16594),

Gene: Cucurbita_44 Start: 19203, Stop: 19868, Start Num: 12
Candidate Starts for Cucurbita_44:
(Start: 12 @19203 has 117 MA's), (31, 19293), (82, 19650), (102, 19803),

Gene: Culver_42 Start: 17642, Stop: 18307, Start Num: 12
Candidate Starts for Culver_42:
(Start: 12 @17642 has 117 MA's), (31, 17732), (82, 18089),

Gene: Dalilpop_40 Start: 23693, Stop: 24376, Start Num: 12
Candidate Starts for Dalilpop_40:
(Start: 12 @23693 has 117 MA's), (47, 23894), (65, 24026), (78, 24125), (83, 24164), (87, 24182), (94, 24251), (104, 24302), (111, 24341),

Gene: Daredevil_23 Start: 13726, Stop: 14382, Start Num: 12
Candidate Starts for Daredevil_23:
(3, 13669), (Start: 12 @13726 has 117 MA's), (16, 13747), (19, 13777), (58, 14002), (73, 14104), (90, 14224), (102, 14311), (103, 14314), (104, 14320),

Gene: Darwin_26 Start: 16706, Stop: 17368, Start Num: 12
Candidate Starts for Darwin_26:
(Start: 12 @16706 has 117 MA's), (15, 16724), (28, 16787), (30, 16793), (65, 17027), (78, 17123), (87, 17180), (89, 17195), (111, 17339),

Gene: DatBoi_25 Start: 16122, Stop: 16778, Start Num: 12
Candidate Starts for DatBoi_25:
(3, 16065), (Start: 12 @16122 has 117 MA's), (19, 16173), (68, 16467),

Gene: Dirtdigger_16 Start: 9229, Stop: 9897, Start Num: 12
Candidate Starts for Dirtdigger_16:
(Start: 12 @9229 has 117 MA's), (36, 9364), (50, 9451), (59, 9517), (75, 9637), (99, 9808), (102, 9823),

Gene: Donatella_15 Start: 9378, Stop: 10046, Start Num: 12
Candidate Starts for Donatella_15:
(Start: 12 @9378 has 117 MA's), (23, 9447), (50, 9600), (59, 9666), (75, 9786), (92, 9918), (102, 9972),

Gene: Dusty_41 Start: 17642, Stop: 18307, Start Num: 12
Candidate Starts for Dusty_41:
(Start: 12 @17642 has 117 MA's), (31, 17732), (82, 18089),

Gene: Elesar_15 Start: 9307, Stop: 9969, Start Num: 12
Candidate Starts for Elesar_15:
(Start: 12 @9307 has 117 MA's), (23, 9376), (28, 9394), (30, 9400), (54, 9568), (56, 9577), (58, 9589), (63, 9625), (88, 9796), (96, 9868), (100, 9886),

Gene: Emianna_35 Start: 22419, Stop: 23102, Start Num: 12
Candidate Starts for Emianna_35:
(Start: 12 @22419 has 117 MA's), (15, 22437), (34, 22530), (46, 22617), (47, 22620), (65, 22752), (78, 22851), (87, 22908), (94, 22977), (100, 23007), (104, 23028), (111, 23067),

Gene: Engineer_43 Start: 17859, Stop: 18524, Start Num: 12
Candidate Starts for Engineer_43:
(Start: 12 @17859 has 117 MA's), (31, 17949), (82, 18306), (102, 18459),

Gene: Ennea_41 Start: 23023, Stop: 23706, Start Num: 12
Candidate Starts for Ennea_41:
(Start: 12 @23023 has 117 MA's), (47, 23224), (65, 23356), (68, 23383), (78, 23455), (87, 23512), (94, 23581), (104, 23632), (111, 23671),

Gene: EvenBluerMoon_13 Start: 9146, Stop: 9808, Start Num: 12
Candidate Starts for EvenBluerMoon_13:
(Start: 12 @9146 has 117 MA's), (22, 9212), (37, 9284), (43, 9317), (61, 9443), (64, 9467), (111, 9779),

Gene: Flapper_39 Start: 22775, Stop: 23458, Start Num: 12
Candidate Starts for Flapper_39:
(Start: 12 @22775 has 117 MA's), (47, 22976), (51, 23024), (65, 23108), (78, 23207), (83, 23246), (87, 23264), (94, 23333), (104, 23384), (111, 23423),

Gene: Float294_37 Start: 22462, Stop: 23145, Start Num: 12
Candidate Starts for Float294_37:
(Start: 12 @22462 has 117 MA's), (47, 22663), (65, 22795), (68, 22822), (78, 22894), (87, 22951), (94, 23020), (104, 23071), (111, 23110),

Gene: Foxboro_36 Start: 22925, Stop: 23608, Start Num: 12
Candidate Starts for Foxboro_36:
(Start: 12 @22925 has 117 MA's), (15, 22943), (34, 23036), (46, 23123), (47, 23126), (65, 23258), (78, 23357), (87, 23414), (94, 23483), (100, 23513), (104, 23534), (111, 23573),

Gene: Fury_44 Start: 22072, Stop: 22755, Start Num: 12
Candidate Starts for Fury_44:
(Start: 12 @22072 has 117 MA's), (47, 22273), (57, 22354), (64, 22399), (65, 22405), (66, 22417), (78, 22504), (87, 22561), (94, 22630), (104, 22681), (109, 22711), (111, 22720),

Gene: GRU1_25 Start: 14660, Stop: 15343, Start Num: 12
Candidate Starts for GRU1_25:
(Start: 12 @14660 has 117 MA's), (47, 14861), (65, 14993), (78, 15092), (83, 15131), (87, 15149), (94, 15218), (104, 15269), (111, 15308),

Gene: GTE5_26 Start: 15663, Stop: 16346, Start Num: 12
Candidate Starts for GTE5_26:
(Start: 12 @15663 has 117 MA's), (47, 15864), (65, 15996), (78, 16095), (83, 16134), (87, 16152), (94, 16221), (104, 16272), (111, 16311),

Gene: GTE8_24 Start: 15678, Stop: 16361, Start Num: 12
Candidate Starts for GTE8_24:
(Start: 12 @15678 has 117 MA's), (15, 15696), (65, 16011), (68, 16038), (78, 16110), (87, 16167), (94, 16236), (100, 16266), (102, 16278), (104, 16287), (111, 16326),

Gene: Gagieri_39 Start: 23053, Stop: 23721, Start Num: 12
Candidate Starts for Gagieri_39:
(Start: 12 @23053 has 117 MA's), (28, 23134), (31, 23143), (50, 23275), (65, 23377), (66, 23389), (78, 23476), (87, 23533), (94, 23602), (95, 23608), (98, 23620), (111, 23692),

Gene: Geeche_41 Start: 17733, Stop: 18398, Start Num: 12
Candidate Starts for Geeche_41:
(Start: 12 @17733 has 117 MA's), (31, 17823), (82, 18180), (102, 18333),

Gene: GoodLuckBabe_16 Start: 9206, Stop: 9874, Start Num: 12
Candidate Starts for GoodLuckBabe_16:
(Start: 12 @9206 has 117 MA's), (50, 9428), (59, 9494), (68, 9560), (75, 9614), (102, 9800),

Gene: GrootJr_37 Start: 21777, Stop: 22460, Start Num: 12
Candidate Starts for GrootJr_37:
(Start: 12 @21777 has 117 MA's), (15, 21795), (34, 21888), (46, 21975), (47, 21978), (65, 22110), (78, 22209), (87, 22266), (94, 22335), (100, 22365), (104, 22386), (111, 22425),

Gene: Guinevere_16 Start: 9237, Stop: 9905, Start Num: 12
Candidate Starts for Guinevere_16:
(Start: 12 @9237 has 117 MA's), (23, 9306), (50, 9459), (59, 9525), (75, 9645), (92, 9777), (102, 9831),

Gene: Gusanita_14 Start: 9128, Stop: 9796, Start Num: 12
Candidate Starts for Gusanita_14:
(Start: 12 @9128 has 117 MA's), (36, 9263), (50, 9350), (59, 9416), (75, 9536), (99, 9707), (102, 9722),

Gene: Halloweekend_14 Start: 8878, Stop: 9546, Start Num: 12
Candidate Starts for Halloweekend_14:
(Start: 12 @8878 has 117 MA's), (50, 9100), (59, 9166), (75, 9286), (92, 9418), (102, 9472),

Gene: Hereford_21 Start: 9291, Stop: 9953, Start Num: 12
Candidate Starts for Hereford_21:
(Start: 12 @9291 has 117 MA's), (22, 9357), (43, 9462), (61, 9588), (64, 9612), (111, 9924),

Gene: HomeFry_41 Start: 20719, Stop: 21402, Start Num: 12
Candidate Starts for HomeFry_41:
(1, 20545), (2, 20638), (Start: 12 @20719 has 117 MA's), (47, 20920), (57, 21001), (64, 21046), (65, 21052), (66, 21064), (78, 21151), (87, 21208), (94, 21277), (98, 21295), (102, 21319), (104, 21328), (109, 21358), (111, 21367),

Gene: HubbaBubba_33 Start: 18243, Stop: 18923, Start Num: 12
Candidate Starts for HubbaBubba_33:
(Start: 12 @18243 has 117 MA's), (46, 18438), (57, 18522), (65, 18573), (68, 18600), (78, 18672), (87, 18729), (94, 18798), (104, 18849), (111, 18888),

Gene: IDyn_36 Start: 19639, Stop: 20319, Start Num: 12
Candidate Starts for IDyn_36:
(Start: 12 @19639 has 117 MA's), (46, 19834), (57, 19918), (65, 19969), (78, 20068), (87, 20125), (94, 20194), (104, 20245), (111, 20284),

Gene: Ichiang_14 Start: 8893, Stop: 9561, Start Num: 12
Candidate Starts for Ichiang_14:
(Start: 12 @8893 has 117 MA's), (23, 8962), (50, 9115), (59, 9181), (75, 9301), (102, 9487),

Gene: IsHungry_16 Start: 9202, Stop: 9870, Start Num: 12
Candidate Starts for IsHungry_16:
(Start: 12 @9202 has 117 MA's), (36, 9337), (50, 9424), (59, 9490), (75, 9610), (99, 9781), (102, 9796),

Gene: JanetJ_13 Start: 8928, Stop: 9581, Start Num: 12
Candidate Starts for JanetJ_13:
(Start: 12 @8928 has 117 MA's), (Start: 13 @8931 has 2 MA's), (41, 9081), (43, 9093), (61, 9219), (64, 9243), (65, 9249), (89, 9417), (111, 9555),

Gene: JeanClaude_12 Start: 7914, Stop: 8567, Start Num: 12
Candidate Starts for JeanClaude_12:
(Start: 12 @7914 has 117 MA's), (22, 7974), (43, 8079), (55, 8175), (57, 8184), (61, 8205), (64, 8229), (68, 8262), (111, 8541),

Gene: Jifall16_34 Start: 22046, Stop: 22729, Start Num: 12
Candidate Starts for Jifall16_34:
(Start: 12 @22046 has 117 MA's), (15, 22064), (34, 22157), (46, 22244), (47, 22247), (65, 22379), (78, 22478), (87, 22535), (94, 22604), (100, 22634), (104, 22655), (111, 22694),

Gene: JonJames_41 Start: 21700, Stop: 22365, Start Num: 12
Candidate Starts for JonJames_41:
(Start: 12 @21700 has 117 MA's), (32, 21793), (42, 21862), (68, 22051), (71, 22078), (98, 22267),

Gene: Julie_16 Start: 9465, Stop: 10133, Start Num: 12
Candidate Starts for Julie_16:
(Start: 12 @9465 has 117 MA's), (36, 9600), (50, 9687), (59, 9753), (75, 9873), (99, 10044),

Gene: Kabluna_38 Start: 21100, Stop: 21783, Start Num: 12
Candidate Starts for Kabluna_38:
(Start: 12 @21100 has 117 MA's), (47, 21301), (51, 21349), (65, 21433), (78, 21532), (87, 21589), (94, 21658), (111, 21748),

Gene: KidneyBean_35 Start: 22194, Stop: 22877, Start Num: 12
Candidate Starts for KidneyBean_35:
(Start: 12 @22194 has 117 MA's), (15, 22212), (34, 22305), (47, 22395), (65, 22527), (78, 22626), (87, 22683), (94, 22752), (100, 22782), (104, 22803), (111, 22842),

Gene: Kihatsu_17 Start: 9559, Stop: 10227, Start Num: 12
Candidate Starts for Kihatsu_17:
(Start: 12 @9559 has 117 MA's), (59, 9847), (75, 9967), (92, 10099), (102, 10153),

Gene: Kimchi1738_23 Start: 15559, Stop: 16221, Start Num: 12
Candidate Starts for Kimchi1738_23:
(Start: 12 @15559 has 117 MA's), (15, 15577), (28, 15640), (30, 15646), (65, 15880), (78, 15976), (87, 16033), (89, 16048), (111, 16192),

Gene: Kumotta_13 Start: 8849, Stop: 9499, Start Num: 12
Candidate Starts for Kumotta_13:
(Start: 12 @8849 has 117 MA's), (22, 8909), (26, 8921), (41, 8999), (55, 9107), (61, 9137), (64, 9161), (67, 9185), (68, 9194), (85, 9308), (111, 9473),

Gene: Kurt_35 Start: 22434, Stop: 23117, Start Num: 12

Candidate Starts for Kurt_35:
(Start: 12 @22434 has 117 MA's), (15, 22452), (34, 22545), (46, 22632), (47, 22635), (65, 22767), (78, 22866), (87, 22923), (94, 22992), (100, 23022), (104, 23043), (111, 23082),

Gene: Lenoxika_16 Start: 9239, Stop: 9907, Start Num: 12
Candidate Starts for Lenoxika_16:
(Start: 12 @9239 has 117 MA's), (23, 9308), (50, 9461), (59, 9527), (75, 9647), (92, 9779), (102, 9833),

Gene: Lollipop1437_40 Start: 23011, Stop: 23694, Start Num: 12
Candidate Starts for Lollipop1437_40:
(Start: 12 @23011 has 117 MA's), (47, 23212), (65, 23344), (68, 23371), (78, 23443), (87, 23500), (94, 23569), (104, 23620), (111, 23659),

Gene: Lozinak_42 Start: 17914, Stop: 18579, Start Num: 12
Candidate Starts for Lozinak_42:
(Start: 12 @17914 has 117 MA's), (31, 18004), (82, 18361), (102, 18514),

Gene: MacGully_43 Start: 23224, Stop: 23904, Start Num: 12
Candidate Starts for MacGully_43:
(Start: 12 @23224 has 117 MA's), (18, 23263), (28, 23305), (50, 23449), (65, 23551), (66, 23563), (68, 23578), (78, 23650), (87, 23707), (91, 23746), (94, 23776), (98, 23794), (99, 23803), (102, 23818), (111, 23866), (112, 23878),

Gene: Maja_12 Start: 8474, Stop: 9121, Start Num: 12
Candidate Starts for Maja_12:
(Start: 12 @8474 has 117 MA's), (Start: 13 @8477 has 2 MA's), (22, 8534), (28, 8555), (34, 8585), (42, 8630), (61, 8762), (64, 8786), (75, 8870), (111, 9098),

Gene: MargaretKali_13 Start: 8484, Stop: 9134, Start Num: 12
Candidate Starts for MargaretKali_13:
(Start: 12 @8484 has 117 MA's), (37, 8613), (40, 8619), (43, 8646), (58, 8760), (61, 8772), (64, 8796), (67, 8820), (68, 8829), (85, 8943), (92, 9012), (95, 9030), (106, 9093), (111, 9108),

Gene: Marietta_37 Start: 19554, Stop: 20234, Start Num: 12
Candidate Starts for Marietta_37:
(1, 19380), (Start: 12 @19554 has 117 MA's), (46, 19752), (65, 19887), (78, 19986), (83, 20025), (87, 20043), (93, 20103), (94, 20112), (104, 20163), (111, 20202), (112, 20214),

Gene: Maselop_39 Start: 23248, Stop: 23916, Start Num: 12
Candidate Starts for Maselop_39:
(Start: 12 @23248 has 117 MA's), (28, 23329), (36, 23386), (50, 23470), (65, 23572), (66, 23584), (78, 23671), (87, 23728), (94, 23797), (95, 23803), (98, 23815), (110, 23881), (111, 23887),

Gene: MerCougar_36 Start: 22307, Stop: 22990, Start Num: 12
Candidate Starts for MerCougar_36:
(Start: 12 @22307 has 117 MA's), (47, 22508), (65, 22640), (78, 22739), (81, 22748), (87, 22796), (94, 22865), (111, 22955),

Gene: Merpity_13 Start: 7019, Stop: 7681, Start Num: 12
Candidate Starts for Merpity_13:
(Start: 12 @7019 has 117 MA's), (23, 7088), (28, 7106), (30, 7112), (50, 7241), (58, 7301), (63, 7337), (68, 7373), (70, 7385), (75, 7424), (88, 7508),

Gene: MillySue_16 Start: 9251, Stop: 9919, Start Num: 12
Candidate Starts for MillySue_16:
(Start: 12 @9251 has 117 MA's), (36, 9386), (50, 9473), (59, 9539), (75, 9659), (102, 9845),

Gene: Miskis_40 Start: 17677, Stop: 18342, Start Num: 12
Candidate Starts for Miskis_40:
(Start: 12 @17677 has 117 MA's), (31, 17767), (82, 18124),

Gene: ModicumRichard_13 Start: 8905, Stop: 9573, Start Num: 11
Candidate Starts for ModicumRichard_13:
(Start: 11 @8905 has 6 MA's), (74, 9307), (87, 9388), (92, 9445), (106, 9526), (111, 9547),

Gene: Mollymur_25 Start: 16148, Stop: 16804, Start Num: 12
Candidate Starts for Mollymur_25:
(Start: 12 @16148 has 117 MA's), (20, 16202), (24, 16214), (44, 16313), (71, 16520), (76, 16550), (77, 16553),

Gene: Morgana_13 Start: 8909, Stop: 9580, Start Num: 11
Candidate Starts for Morgana_13:
(Start: 11 @8909 has 6 MA's), (74, 9311), (87, 9392), (92, 9449), (106, 9530), (111, 9551),

Gene: MrSmee_12 Start: 7019, Stop: 7681, Start Num: 12
Candidate Starts for MrSmee_12:
(Start: 12 @7019 has 117 MA's), (23, 7088), (28, 7106), (30, 7112), (50, 7241), (58, 7301), (63, 7337), (68, 7373), (70, 7385), (75, 7424), (88, 7508),

Gene: NadineRae_35 Start: 18802, Stop: 19482, Start Num: 12
Candidate Starts for NadineRae_35:
(Start: 12 @18802 has 117 MA's), (46, 18997), (57, 19081), (65, 19132), (78, 19231), (87, 19288), (94, 19357), (104, 19408), (111, 19447),

Gene: Nandita_16 Start: 9237, Stop: 9905, Start Num: 12
Candidate Starts for Nandita_16:
(Start: 12 @9237 has 117 MA's), (23, 9306), (50, 9459), (59, 9525), (75, 9645), (92, 9777), (102, 9831),

Gene: NatB6_35 Start: 21443, Stop: 22126, Start Num: 12
Candidate Starts for NatB6_35:
(Start: 12 @21443 has 117 MA's), (15, 21461), (34, 21554), (46, 21641), (47, 21644), (65, 21776), (78, 21875), (87, 21932), (94, 22001), (100, 22031), (104, 22052), (111, 22091),

Gene: NoSwimming_14 Start: 10095, Stop: 10754, Start Num: 12
Candidate Starts for NoSwimming_14:
(Start: 12 @10095 has 117 MA's), (Start: 13 @10098 has 2 MA's), (22, 10155), (43, 10260), (61, 10386), (64, 10410), (65, 10416), (108, 10716), (111, 10722), (114, 10740),

Gene: Norvs_43 Start: 17916, Stop: 18581, Start Num: 12
Candidate Starts for Norvs_43:
(Start: 12 @17916 has 117 MA's), (31, 18006), (82, 18363), (102, 18516),

Gene: NosilaM_38 Start: 21997, Stop: 22680, Start Num: 12
Candidate Starts for NosilaM_38:
(Start: 12 @21997 has 117 MA's), (47, 22198), (51, 22246), (65, 22330), (78, 22429), (87, 22486), (94, 22555), (111, 22645),

Gene: NovumRegina_35 Start: 21776, Stop: 22459, Start Num: 12
Candidate Starts for NovumRegina_35:
(Start: 12 @21776 has 117 MA's), (15, 21794), (34, 21887), (46, 21974), (47, 21977), (65, 22109), (78, 22208), (87, 22265), (94, 22334), (100, 22364), (104, 22385), (111, 22424),

Gene: ObLaDi_13 Start: 8905, Stop: 9573, Start Num: 11
Candidate Starts for ObLaDi_13:
(Start: 11 @8905 has 6 MA's), (74, 9307), (87, 9388), (92, 9445), (106, 9526), (111, 9547),

Gene: OneUp_36 Start: 15613, Stop: 16278, Start Num: 12
Candidate Starts for OneUp_36:
(9, 15595), (Start: 12 @15613 has 117 MA's), (50, 15844), (58, 15904), (60, 15913), (76, 16030),

Gene: Outis_36 Start: 22001, Stop: 22684, Start Num: 12
Candidate Starts for Outis_36:
(Start: 12 @22001 has 117 MA's), (47, 22202), (65, 22334), (78, 22433), (81, 22442), (87, 22490), (94, 22559), (111, 22649),

Gene: P1201_38 Start: 22813, Stop: 23490, Start Num: 12
Candidate Starts for P1201_38:
(Start: 12 @22813 has 117 MA's), (33, 22921), (35, 22942), (46, 22999), (53, 23065), (60, 23101), (72, 23188), (87, 23287), (94, 23356), (111, 23446),

Gene: Patio_38 Start: 22247, Stop: 22930, Start Num: 12
Candidate Starts for Patio_38:
(Start: 12 @22247 has 117 MA's), (47, 22448), (65, 22580), (68, 22607), (78, 22679), (87, 22736), (94, 22805), (104, 22856), (111, 22895),

Gene: Pemberton_38 Start: 19542, Stop: 20222, Start Num: 12
Candidate Starts for Pemberton_38:
(Start: 12 @19542 has 117 MA's), (46, 19737), (57, 19821), (65, 19872), (78, 19971), (87, 20028), (94, 20097), (104, 20148), (111, 20187),

Gene: PeteyPab_22 Start: 15926, Stop: 16588, Start Num: 12
Candidate Starts for PeteyPab_22:
(Start: 12 @15926 has 117 MA's), (15, 15944), (28, 16007), (30, 16013), (65, 16247), (78, 16343), (87, 16400), (89, 16415), (111, 16559),

Gene: PhinkBoden_42 Start: 18297, Stop: 18962, Start Num: 12
Candidate Starts for PhinkBoden_42:
(Start: 12 @18297 has 117 MA's), (31, 18387), (82, 18744), (102, 18897),

Gene: Phomeo_34 Start: 22069, Stop: 22752, Start Num: 12
Candidate Starts for Phomeo_34:
(Start: 12 @22069 has 117 MA's), (15, 22087), (34, 22180), (46, 22267), (47, 22270), (65, 22402), (78, 22501), (87, 22558), (94, 22627), (100, 22657), (104, 22678), (111, 22717),

Gene: Pigu_12 Start: 7560, Stop: 8207, Start Num: 12
Candidate Starts for Pigu_12:
(Start: 12 @7560 has 117 MA's), (Start: 13 @7563 has 2 MA's), (22, 7620), (34, 7671), (38, 7692), (57, 7827), (61, 7848), (64, 7872), (68, 7905), (78, 7974), (111, 8184),

Gene: Pleakley_44 Start: 22073, Stop: 22756, Start Num: 12
Candidate Starts for Pleakley_44:
(Start: 12 @22073 has 117 MA's), (47, 22274), (57, 22355), (64, 22400), (65, 22406), (66, 22418), (78, 22505), (87, 22562), (94, 22631), (104, 22682), (109, 22712), (111, 22721),

Gene: Polyyuki_39 Start: 23240, Stop: 23908, Start Num: 12
Candidate Starts for Polyyuki_39:
(Start: 12 @23240 has 117 MA's), (28, 23321), (36, 23378), (50, 23462), (65, 23564), (66, 23576), (78, 23663), (87, 23720), (94, 23789), (95, 23795), (98, 23807), (110, 23873), (111, 23879),

Gene: Popper_14 Start: 8768, Stop: 9433, Start Num: 12
Candidate Starts for Popper_14:
(Start: 12 @8768 has 117 MA's), (50, 8990), (56, 9038), (58, 9050), (59, 9056), (63, 9086), (75, 9176), (85, 9239), (89, 9266), (102, 9362),

Gene: PotatoChip_23 Start: 15928, Stop: 16590, Start Num: 12
Candidate Starts for PotatoChip_23:
(Start: 12 @15928 has 117 MA's), (15, 15946), (28, 16009), (30, 16015), (65, 16249), (78, 16345), (87, 16402), (89, 16417), (111, 16561),

Gene: PrairieDogTown_13 Start: 9148, Stop: 9810, Start Num: 12
Candidate Starts for PrairieDogTown_13:
(Start: 12 @9148 has 117 MA's), (22, 9214), (37, 9286), (43, 9319), (61, 9445), (64, 9469), (111, 9781),

Gene: QuinnAvery_16 Start: 9252, Stop: 9920, Start Num: 12
Candidate Starts for QuinnAvery_16:
(Start: 12 @9252 has 117 MA's), (59, 9540), (75, 9660), (92, 9792), (102, 9846),

Gene: REQ2_12 Start: 7795, Stop: 8721, Start Num: 12
Candidate Starts for REQ2_12:
(4, 7759), (5, 7762), (8, 7777), (Start: 12 @7795 has 117 MA's), (17, 7822), (22, 7864), (27, 7879), (28, 7885), (45, 7975), (48, 8008), (52, 8050), (66, 8137), (95, 8359), (97, 8368), (119, 8563), (121, 8656), (122, 8674),

Gene: Raqqa_13 Start: 8165, Stop: 8830, Start Num: 12
Candidate Starts for Raqqa_13:
(Start: 12 @8165 has 117 MA's), (25, 8240), (30, 8258), (36, 8300), (48, 8372), (50, 8387), (59, 8453), (62, 8462), (63, 8483), (80, 8597), (88, 8657),

Gene: RedRaider_42 Start: 24251, Stop: 24934, Start Num: 12
Candidate Starts for RedRaider_42:
(Start: 12 @24251 has 117 MA's), (47, 24452), (65, 24584), (68, 24611), (78, 24683), (87, 24740), (94, 24809), (104, 24860), (111, 24899),

Gene: Rooter_12 Start: 7551, Stop: 8204, Start Num: 12
Candidate Starts for Rooter_12:
(Start: 12 @7551 has 117 MA's), (22, 7611), (43, 7716), (55, 7812), (57, 7821), (61, 7842), (64, 7866), (68, 7899), (111, 8178),

Gene: Ryan_16 Start: 9383, Stop: 10051, Start Num: 12
Candidate Starts for Ryan_16:
(Start: 12 @9383 has 117 MA's), (50, 9605), (59, 9671), (75, 9791), (92, 9923), (102, 9977),

Gene: SPB78_13 Start: 8500, Stop: 9165, Start Num: 12
Candidate Starts for SPB78_13:
(Start: 12 @8500 has 117 MA's), (14, 8518), (21, 8566), (24, 8575), (41, 8659), (49, 8713), (57, 8773), (86, 8977), (94, 9055),

Gene: Sarge_12 Start: 7918, Stop: 8571, Start Num: 12
Candidate Starts for Sarge_12:
(Start: 12 @7918 has 117 MA's), (22, 7978), (43, 8083), (55, 8179), (57, 8188), (61, 8209), (64, 8233), (68, 8266), (111, 8545),

Gene: Schism_16 Start: 9237, Stop: 9905, Start Num: 12
Candidate Starts for Schism_16:
(Start: 12 @9237 has 117 MA's), (23, 9306), (50, 9459), (59, 9525), (75, 9645), (92, 9777), (102, 9831),

Gene: Scotia_14 Start: 10104, Stop: 10754, Start Num: 13
Candidate Starts for Scotia_14:
(Start: 12 @10101 has 117 MA's), (Start: 13 @10104 has 2 MA's), (22, 10161), (43, 10266), (61, 10392), (64, 10416), (65, 10422), (111, 10728),

Gene: Scuba_44 Start: 22163, Stop: 22846, Start Num: 12
Candidate Starts for Scuba_44:
(Start: 12 @22163 has 117 MA's), (47, 22364), (57, 22445), (64, 22490), (65, 22496), (66, 22508), (78, 22595), (87, 22652), (94, 22721), (104, 22772), (109, 22802), (111, 22811),

Gene: Shoya_11 Start: 7554, Stop: 8207, Start Num: 12
Candidate Starts for Shoya_11:
(Start: 12 @7554 has 117 MA's), (22, 7614), (43, 7719), (55, 7815), (57, 7824), (61, 7845), (64, 7869), (68, 7902), (111, 8181),

Gene: Skitty_12 Start: 7019, Stop: 7681, Start Num: 12
Candidate Starts for Skitty_12:
(Start: 12 @7019 has 117 MA's), (23, 7088), (28, 7106), (30, 7112), (50, 7241), (58, 7301), (63, 7337), (68, 7373), (70, 7385), (75, 7424), (88, 7508),

Gene: Skysand_37 Start: 22464, Stop: 23147, Start Num: 12
Candidate Starts for Skysand_37:
(Start: 12 @22464 has 117 MA's), (47, 22665), (65, 22797), (68, 22824), (78, 22896), (87, 22953), (94, 23022), (104, 23073), (111, 23112),

Gene: Smoothie_43 Start: 17914, Stop: 18579, Start Num: 12
Candidate Starts for Smoothie_43:
(Start: 12 @17914 has 117 MA's), (31, 18004), (82, 18361), (102, 18514),

Gene: SpeedDemon_250 Start: 15649, Stop: 16305, Start Num: 12
Candidate Starts for SpeedDemon_250:
(3, 15592), (Start: 12 @15649 has 117 MA's), (19, 15700), (24, 15715), (68, 15994),

Gene: StarStruck_36 Start: 22001, Stop: 22684, Start Num: 12
Candidate Starts for StarStruck_36:
(Start: 12 @22001 has 117 MA's), (47, 22202), (65, 22334), (78, 22433), (81, 22442), (87, 22490), (94, 22559), (111, 22649),

Gene: Stickynote_25 Start: 16738, Stop: 17400, Start Num: 12

Candidate Starts for Stickynote_25:
(Start: 12 @16738 has 117 MA's), (15, 16756), (28, 16819), (30, 16825), (65, 17059), (78, 17155), (87, 17212), (89, 17227), (111, 17371),

Gene: Sukkupi_37 Start: 21116, Stop: 21796, Start Num: 12
Candidate Starts for Sukkupi_37:
(Start: 12 @21116 has 117 MA's), (46, 21311), (57, 21395), (65, 21446), (78, 21545), (87, 21602), (94, 21671), (104, 21722), (111, 21761),

Gene: SuperSulley_36 Start: 22185, Stop: 22868, Start Num: 12
Candidate Starts for SuperSulley_36:
(Start: 12 @22185 has 117 MA's), (47, 22386), (65, 22518), (78, 22617), (81, 22626), (87, 22674), (94, 22743), (111, 22833),

Gene: ToastyOats_18 Start: 9715, Stop: 10383, Start Num: 12
Candidate Starts for ToastyOats_18:
(Start: 12 @9715 has 117 MA's), (59, 10003), (75, 10123), (92, 10255), (102, 10309),

Gene: Toniann_42 Start: 17859, Stop: 18524, Start Num: 12
Candidate Starts for Toniann_42:
(Start: 12 @17859 has 117 MA's), (31, 17949), (82, 18306), (102, 18459),

Gene: Toodles_17 Start: 9447, Stop: 10112, Start Num: 12
Candidate Starts for Toodles_17:
(Start: 12 @9447 has 117 MA's), (41, 9606), (56, 9717), (59, 9735), (75, 9855), (99, 10026), (102, 10041),

Gene: Towmatter_22 Start: 13548, Stop: 14204, Start Num: 12
Candidate Starts for Towmatter_22:
(3, 13491), (Start: 12 @13548 has 117 MA's), (16, 13569), (19, 13599), (58, 13824), (73, 13926), (90, 14046), (102, 14133), (103, 14136), (104, 14142),

Gene: Tracker_35 Start: 21197, Stop: 21880, Start Num: 12
Candidate Starts for Tracker_35:
(Start: 12 @21197 has 117 MA's), (15, 21215), (34, 21308), (46, 21395), (47, 21398), (65, 21530), (78, 21629), (87, 21686), (94, 21755), (100, 21785), (104, 21806), (111, 21845),

Gene: Turuncu_39 Start: 22468, Stop: 23151, Start Num: 12
Candidate Starts for Turuncu_39:
(Start: 12 @22468 has 117 MA's), (47, 22669), (65, 22801), (78, 22900), (83, 22939), (87, 22957), (94, 23026), (104, 23077), (111, 23116),

Gene: VanLee_14 Start: 8706, Stop: 9605, Start Num: 11
Candidate Starts for VanLee_14:
(Start: 11 @8706 has 6 MA's), (29, 8796), (35, 8841), (36, 8850), (87, 9183), (113, 9357), (120, 9480), (122, 9573),

Gene: Whack_12 Start: 7754, Stop: 8692, Start Num: 12
Candidate Starts for Whack_12:
(6, 7721), (9, 7736), (Start: 12 @7754 has 117 MA's), (27, 7841), (28, 7847), (39, 7904), (66, 8099), (68, 8114), (90, 8267), (92, 8303), (97, 8330), (98, 8333), (101, 8351), (118, 8495), (119, 8534),

Gene: Wheezy_35 Start: 21402, Stop: 22085, Start Num: 12

Candidate Starts for Wheezy_35:
(Start: 12 @21402 has 117 MA's), (15, 21420), (34, 21513), (46, 21600), (47, 21603), (65, 21735), (78, 21834), (87, 21891), (94, 21960), (100, 21990), (104, 22011), (111, 22050),

Gene: WhoseManz_37 Start: 19168, Stop: 19848, Start Num: 12
Candidate Starts for WhoseManz_37:
(Start: 12 @19168 has 117 MA's), (46, 19363), (57, 19447), (65, 19498), (68, 19525), (78, 19597), (87, 19654), (94, 19723), (104, 19774), (111, 19813),

Gene: WilliamBoone_42 Start: 17223, Stop: 17888, Start Num: 12
Candidate Starts for WilliamBoone_42:
(Start: 12 @17223 has 117 MA's), (60, 17523), (68, 17583), (82, 17670),

Gene: Yndexa_37 Start: 21116, Stop: 21796, Start Num: 12
Candidate Starts for Yndexa_37:
(Start: 12 @21116 has 117 MA's), (46, 21311), (57, 21395), (65, 21446), (78, 21545), (87, 21602), (94, 21671), (104, 21722), (111, 21761),

Gene: Yonex_16 Start: 9383, Stop: 10051, Start Num: 12
Candidate Starts for Yonex_16:
(Start: 12 @9383 has 117 MA's), (50, 9605), (59, 9671), (75, 9791), (92, 9923), (102, 9977),

Gene: Yvonnetastic_39 Start: 19249, Stop: 19914, Start Num: 12
Candidate Starts for Yvonnetastic_39:
(Start: 12 @19249 has 117 MA's), (32, 19342), (42, 19411), (68, 19600), (71, 19627), (98, 19816),

Gene: Zaheer_16 Start: 9472, Stop: 10140, Start Num: 12
Candidate Starts for Zaheer_16:
(Start: 12 @9472 has 117 MA's), (23, 9541), (50, 9694), (59, 9760), (75, 9880), (102, 10066),

Gene: Zion_23 Start: 15926, Stop: 16588, Start Num: 12
Candidate Starts for Zion_23:
(Start: 12 @15926 has 117 MA's), (15, 15944), (28, 16007), (30, 16013), (65, 16247), (78, 16343), (87, 16400), (89, 16415), (111, 16559),

Gene: Zucker_14 Start: 8546, Stop: 9211, Start Num: 12
Candidate Starts for Zucker_14:
(Start: 12 @8546 has 117 MA's), (18, 8591), (25, 8621), (43, 8714), (44, 8717), (49, 8756), (55, 8807), (72, 8927), (102, 9137), (107, 9167),