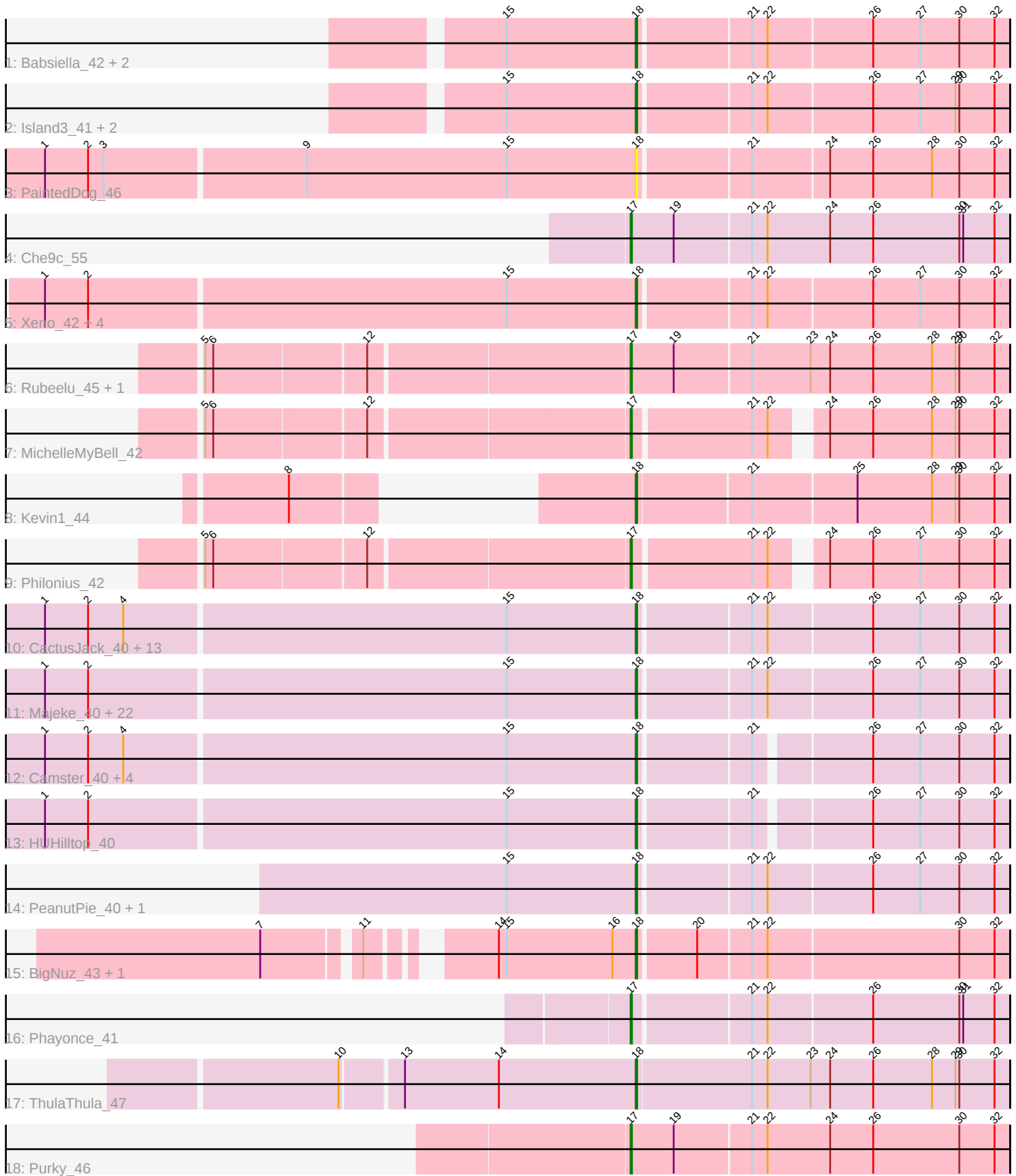


Pham 271650



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 271650 Report

This analysis was run 02/07/26 on database version 634.

Pham number 271650 has 68 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Babsiella_42, HC_40, QueenHazel_37
- Track 2 : Island3_41, Xula_36, Brujita_41
- Track 3 : PaintedDog_46
- Track 4 : Che9c_55
- Track 5 : Xeno_42, Thespiis_40, Atcoo_40, Brusacoram_40, GreaseLightnin_40
- Track 6 : Rubeelu_45, Butters_45
- Track 7 : MichelleMyBell_42
- Track 8 : Kevin1_44
- Track 9 : Philonius_42
- Track 10 : CactusJack_40, Bunnies_40, Juniormint_40, StressBall_40, Phalm_40, Glaske_40, StevieRay_40, Megiddo_40, Willsammy_39, KilKor_40, Polkaroo_40, Jung_39, Gavriela_40, Ksquared_40
- Track 11 : Majeke_40, Kari_40, Zilizebeth_40, FirstPlacePfu_40, Arib1_40, Sonah_40, Malithi_40, Jebeks_41, Necropolis_40, Phegasus_40, GaloreK_40, Langerak_40, Fishburne_40, Vidya_40, Bartholomew_39, Etoile_40, Dynamo_40, Donovan_40, Chubbello_40, Venti_40, Mangethe_40, BronnyJr_40, Techage_40
- Track 12 : Camster_40, Pygmy_42, Shipwreck_42, Bogie_42, Phineas_40
- Track 13 : HUHilltop_40
- Track 14 : PeanutPie_40, Bhagsy_40
- Track 15 : BigNuz_43, Nazo_44
- Track 16 : Phayonce_41
- Track 17 : ThulaThula_47
- Track 18 : Purky_46

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

The start number called the most often in the published annotations is 18, it was called in 54 of the 61 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_40, Atcoo_40, Babsiella_42, Bartholomew_39, Bhagsy_40, BigNuz_43, Bogie_42, BronnyJr_40, Brujita_41, Brusacoram_40, Bunnies_40, CactusJack_40, Camster_40, Chubbello_40, Donovan_40, Dynamo_40, Etoile_40, FirstPlacePfu_40, Fishburne_40, GaloreK_40, Gavriela_40, Glaske_40, GreaseLightnin_40, HC_40,

HUHilltop_40, Island3_41, Jebeks_41, Jung_39, Juniormint_40, Kari_40, Kevin1_44, KilKor_40, Ksquared_40, Langerak_40, Majeke_40, Malithi_40, Mangethe_40, Megiddo_40, Nazo_44, Necropolis_40, PaintedDog_46, PeanutPie_40, Phalm_40, Phegasus_40, Phineas_40, Polkaroo_40, Pygmy_42, QueenHazel_37, Shipwreck_42, Sonah_40, StevieRay_40, StressBall_40, Techage_40, Thespis_40, ThulaThula_47, Venti_40, Vidya_40, Willsammy_39, Xeno_42, Xula_36, Zilizebeth_40,

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

-

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

- Butters_45, Che9c_55, MichelleMyBell_42, Phayonce_41, Philonius_42, Purky_46, Rubeelu_45,

Summary by start number:

Start 17:

- Found in 7 of 68 (10.3%) of genes in pham
- Manual Annotations of this start: 7 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Butters_45 (N), Che9c_55 (I2), MichelleMyBell_42 (N), Phayonce_41 (P5), Philonius_42 (N), Purky_46 (P6), Rubeelu_45 (N),

Start 18:

- Found in 61 of 68 (89.7%) of genes in pham
- Manual Annotations of this start: 54 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1_40 (P1), Atcoo_40 (P1), Babsiella_42 (I1), Bartholomew_39 (P1), Bhagsy_40 (P1), BigNuz_43 (P4), Bogie_42 (P1), BronnyJr_40 (P1), Brujita_41 (I1), Brusacoram_40 (P1), Bunnies_40 (P1), CactusJack_40 (P1), Camster_40 (P1), Chubbello_40 (P1), Donovan_40 (P1), Dynamo_40 (P1), Etoile_40 (P1), FirstPlacePfu_40 (P1), Fishburne_40 (P1), GaloreK_40 (P1), Gavriela_40 (P1), Glaske_40 (P1), GreaseLightnin_40 (P1), HC_40 (I1), HUHilltop_40 (P1), Island3_41 (I1), Jebeks_41 (P1), Jung_39 (P1), Juniormint_40 (P1), Kari_40 (P1), Kevin1_44 (N), KilKor_40 (P1), Ksquared_40 (P1), Langerak_40 (P1), Majeke_40 (P1), Malithi_40 (P1), Mangethe_40 (P1), Megiddo_40 (P1), Nazo_44 (P4), Necropolis_40 (P1), PaintedDog_46 (I1), PeanutPie_40 (P1), Phalm_40 (P1), Phegasus_40 (P1), Phineas_40 (P1), Polkaroo_40 (P1), Pygmy_42 (P1), QueenHazel_37 (I1), Shipwreck_42 (P1), Sonah_40 (P1), StevieRay_40 (P1), StressBall_40 (P1), Techage_40 (P1), Thespis_40 (P1), ThulaThula_47 (P5), Venti_40 (P1), Vidya_40 (P1), Willsammy_39 (P1), Xeno_42 (N), Xula_36 (I1), Zilizebeth_40 (P1),

Summary by clusters:

There are 7 clusters represented in this pham: P1, P6, P4, P5, I1, I2, N,

Info for manual annotations of cluster I1:

- Start number 18 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 17 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster N:

- Start number 17 was manually annotated 4 times for cluster N.
- Start number 18 was manually annotated 2 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 18 was manually annotated 43 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 18 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 17 was manually annotated 1 time for cluster P5.
- Start number 18 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 17 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Arib1_40 Start: 30546, Stop: 30821, Start Num: 18

Candidate Starts for Arib1_40:

(1, 30099), (2, 30132), (15, 30447), (Start: 18 @30546 has 54 MA's), (21, 30627), (22, 30639), (26, 30717), (27, 30753), (30, 30783), (32, 30810),

Gene: Atcoo_40 Start: 31017, Stop: 31292, Start Num: 18

Candidate Starts for Atcoo_40:

(1, 30570), (2, 30603), (15, 30918), (Start: 18 @31017 has 54 MA's), (21, 31098), (22, 31110), (26, 31188), (27, 31224), (30, 31254), (32, 31281),

Gene: Babsiella_42 Start: 31476, Stop: 31751, Start Num: 18

Candidate Starts for Babsiella_42:

(15, 31377), (Start: 18 @31476 has 54 MA's), (21, 31557), (22, 31569), (26, 31647), (27, 31683), (30, 31713), (32, 31740),

Gene: Bartholomew_39 Start: 30540, Stop: 30815, Start Num: 18

Candidate Starts for Bartholomew_39:

(1, 30093), (2, 30126), (15, 30441), (Start: 18 @30540 has 54 MA's), (21, 30621), (22, 30633), (26, 30711), (27, 30747), (30, 30777), (32, 30804),

Gene: Bhagsy_40 Start: 30532, Stop: 30807, Start Num: 18

Candidate Starts for Bhagsy_40:

(15, 30433), (Start: 18 @30532 has 54 MA's), (21, 30613), (22, 30625), (26, 30703), (27, 30739), (30, 30769), (32, 30796),

Gene: BigNuz_43 Start: 32616, Stop: 32891, Start Num: 18

Candidate Starts for BigNuz_43:

(7, 32373), (11, 32439), (14, 32511), (15, 32517), (16, 32598), (Start: 18 @32616 has 54 MA's), (20, 32658), (21, 32697), (22, 32709), (30, 32853), (32, 32880),

Gene: Bogie_42 Start: 32316, Stop: 32582, Start Num: 18

Candidate Starts for Bogie_42:

(1, 31869), (2, 31902), (4, 31929), (15, 32217), (Start: 18 @32316 has 54 MA's), (21, 32397), (26, 32478), (27, 32514), (30, 32544), (32, 32571),

Gene: BronnyJr_40 Start: 31037, Stop: 31312, Start Num: 18

Candidate Starts for BronnyJr_40:

(1, 30590), (2, 30623), (15, 30938), (Start: 18 @31037 has 54 MA's), (21, 31118), (22, 31130), (26, 31208), (27, 31244), (30, 31274), (32, 31301),

Gene: Brujita_41 Start: 32206, Stop: 32481, Start Num: 18

Candidate Starts for Brujita_41:

(15, 32107), (Start: 18 @32206 has 54 MA's), (21, 32287), (22, 32299), (26, 32377), (27, 32413), (29, 32440), (30, 32443), (32, 32470),

Gene: Brusacoram_40 Start: 30523, Stop: 30798, Start Num: 18

Candidate Starts for Brusacoram_40:

(1, 30076), (2, 30109), (15, 30424), (Start: 18 @30523 has 54 MA's), (21, 30604), (22, 30616), (26, 30694), (27, 30730), (30, 30760), (32, 30787),

Gene: Bunnies_40 Start: 30547, Stop: 30822, Start Num: 18

Candidate Starts for Bunnies_40:

(1, 30100), (2, 30133), (4, 30160), (15, 30448), (Start: 18 @30547 has 54 MA's), (21, 30628), (22, 30640), (26, 30718), (27, 30754), (30, 30784), (32, 30811),

Gene: Butters_45 Start: 31709, Stop: 31996, Start Num: 17

Candidate Starts for Butters_45:

(5, 31400), (6, 31406), (12, 31517), (Start: 17 @31709 has 7 MA's), (19, 31742), (21, 31799), (23, 31844), (24, 31859), (26, 31892), (28, 31937), (29, 31955), (30, 31958), (32, 31985),

Gene: CactusJack_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for CactusJack_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: Camster_40 Start: 30563, Stop: 30829, Start Num: 18

Candidate Starts for Camster_40:

(1, 30116), (2, 30149), (4, 30176), (15, 30464), (Start: 18 @30563 has 54 MA's), (21, 30644), (26, 30725), (27, 30761), (30, 30791), (32, 30818),

Gene: Che9c_55 Start: 41610, Stop: 41897, Start Num: 17

Candidate Starts for Che9c_55:

(Start: 17 @41610 has 7 MA's), (19, 41643), (21, 41700), (22, 41712), (24, 41760), (26, 41793), (30, 41859), (31, 41862), (32, 41886),

Gene: Chubbello_40 Start: 30536, Stop: 30811, Start Num: 18

Candidate Starts for Chubbello_40:

(1, 30089), (2, 30122), (15, 30437), (Start: 18 @30536 has 54 MA's), (21, 30617), (22, 30629), (26, 30707), (27, 30743), (30, 30773), (32, 30800),

Gene: Donovan_40 Start: 30563, Stop: 30838, Start Num: 18

Candidate Starts for Donovan_40:

(1, 30116), (2, 30149), (15, 30464), (Start: 18 @30563 has 54 MA's), (21, 30644), (22, 30656), (26, 30734), (27, 30770), (30, 30800), (32, 30827),

Gene: Dynamo_40 Start: 30948, Stop: 31223, Start Num: 18

Candidate Starts for Dynamo_40:

(1, 30501), (2, 30534), (15, 30849), (Start: 18 @30948 has 54 MA's), (21, 31029), (22, 31041), (26, 31119), (27, 31155), (30, 31185), (32, 31212),

Gene: Etoile_40 Start: 30540, Stop: 30815, Start Num: 18

Candidate Starts for Etoile_40:

(1, 30093), (2, 30126), (15, 30441), (Start: 18 @30540 has 54 MA's), (21, 30621), (22, 30633), (26, 30711), (27, 30747), (30, 30777), (32, 30804),

Gene: FirstPlacePfu_40 Start: 30572, Stop: 30847, Start Num: 18

Candidate Starts for FirstPlacePfu_40:

(1, 30125), (2, 30158), (15, 30473), (Start: 18 @30572 has 54 MA's), (21, 30653), (22, 30665), (26, 30743), (27, 30779), (30, 30809), (32, 30836),

Gene: Fishburne_40 Start: 30540, Stop: 30815, Start Num: 18

Candidate Starts for Fishburne_40:

(1, 30093), (2, 30126), (15, 30441), (Start: 18 @30540 has 54 MA's), (21, 30621), (22, 30633), (26, 30711), (27, 30747), (30, 30777), (32, 30804),

Gene: GaloreK_40 Start: 30536, Stop: 30811, Start Num: 18

Candidate Starts for GaloreK_40:

(1, 30089), (2, 30122), (15, 30437), (Start: 18 @30536 has 54 MA's), (21, 30617), (22, 30629), (26, 30707), (27, 30743), (30, 30773), (32, 30800),

Gene: Gavriela_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for Gavriela_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: Glaske_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for Glaske_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: GreaseLightnin_40 Start: 30776, Stop: 31051, Start Num: 18

Candidate Starts for GreaseLightnin_40:

(1, 30329), (2, 30362), (15, 30677), (Start: 18 @30776 has 54 MA's), (21, 30857), (22, 30869), (26, 30947), (27, 30983), (30, 31013), (32, 31040),

Gene: HC_40 Start: 30257, Stop: 30532, Start Num: 18

Candidate Starts for HC_40:

(15, 30158), (Start: 18 @30257 has 54 MA's), (21, 30338), (22, 30350), (26, 30428), (27, 30464), (30, 30494), (32, 30521),

Gene: HUHilltop_40 Start: 30573, Stop: 30839, Start Num: 18

Candidate Starts for HUHilltop_40:

(1, 30126), (2, 30159), (15, 30474), (Start: 18 @30573 has 54 MA's), (21, 30654), (26, 30735), (27, 30771), (30, 30801), (32, 30828),

Gene: Island3_41 Start: 32206, Stop: 32481, Start Num: 18

Candidate Starts for Island3_41:

(15, 32107), (Start: 18 @32206 has 54 MA's), (21, 32287), (22, 32299), (26, 32377), (27, 32413), (29, 32440), (30, 32443), (32, 32470),

Gene: Jebeks_41 Start: 30525, Stop: 30800, Start Num: 18

Candidate Starts for Jebeks_41:

(1, 30078), (2, 30111), (15, 30426), (Start: 18 @30525 has 54 MA's), (21, 30606), (22, 30618), (26, 30696), (27, 30732), (30, 30762), (32, 30789),

Gene: Jung_39 Start: 30494, Stop: 30769, Start Num: 18

Candidate Starts for Jung_39:

(1, 30047), (2, 30080), (4, 30107), (15, 30395), (Start: 18 @30494 has 54 MA's), (21, 30575), (22, 30587), (26, 30665), (27, 30701), (30, 30731), (32, 30758),

Gene: Juniormint_40 Start: 30569, Stop: 30844, Start Num: 18

Candidate Starts for Juniormint_40:

(1, 30122), (2, 30155), (4, 30182), (15, 30470), (Start: 18 @30569 has 54 MA's), (21, 30650), (22, 30662), (26, 30740), (27, 30776), (30, 30806), (32, 30833),

Gene: Kari_40 Start: 30537, Stop: 30812, Start Num: 18

Candidate Starts for Kari_40:

(1, 30090), (2, 30123), (15, 30438), (Start: 18 @30537 has 54 MA's), (21, 30618), (22, 30630), (26, 30708), (27, 30744), (30, 30774), (32, 30801),

Gene: Kevin1_44 Start: 31157, Stop: 31435, Start Num: 18

Candidate Starts for Kevin1_44:

(8, 31019), (Start: 18 @31157 has 54 MA's), (21, 31241), (25, 31319), (28, 31376), (29, 31394), (30, 31397), (32, 31424),

Gene: KilKor_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for KilKor_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: Ksquared_40 Start: 30547, Stop: 30822, Start Num: 18

Candidate Starts for Ksquared_40:

(1, 30100), (2, 30133), (4, 30160), (15, 30448), (Start: 18 @30547 has 54 MA's), (21, 30628), (22, 30640), (26, 30718), (27, 30754), (30, 30784), (32, 30811),

Gene: Langerak_40 Start: 30556, Stop: 30831, Start Num: 18

Candidate Starts for Langerak_40:

(1, 30109), (2, 30142), (15, 30457), (Start: 18 @30556 has 54 MA's), (21, 30637), (22, 30649), (26, 30727), (27, 30763), (30, 30793), (32, 30820),

Gene: Majeke_40 Start: 30581, Stop: 30856, Start Num: 18

Candidate Starts for Majeke_40:

(1, 30134), (2, 30167), (15, 30482), (Start: 18 @30581 has 54 MA's), (21, 30662), (22, 30674), (26, 30752), (27, 30788), (30, 30818), (32, 30845),

Gene: Malithi_40 Start: 30456, Stop: 30731, Start Num: 18

Candidate Starts for Malithi_40:

(1, 30009), (2, 30042), (15, 30357), (Start: 18 @30456 has 54 MA's), (21, 30537), (22, 30549), (26, 30627), (27, 30663), (30, 30693), (32, 30720),

Gene: Mangethe_40 Start: 30581, Stop: 30856, Start Num: 18

Candidate Starts for Mangethe_40:

(1, 30134), (2, 30167), (15, 30482), (Start: 18 @30581 has 54 MA's), (21, 30662), (22, 30674), (26, 30752), (27, 30788), (30, 30818), (32, 30845),

Gene: Megiddo_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for Megiddo_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: MichelleMyBell_42 Start: 29980, Stop: 30246, Start Num: 17

Candidate Starts for MichelleMyBell_42:

(5, 29671), (6, 29677), (12, 29788), (Start: 17 @29980 has 7 MA's), (21, 30067), (22, 30079), (24, 30109), (26, 30142), (28, 30187), (29, 30205), (30, 30208), (32, 30235),

Gene: Nazo_44 Start: 32813, Stop: 33088, Start Num: 18

Candidate Starts for Nazo_44:

(7, 32570), (11, 32636), (14, 32708), (15, 32714), (16, 32795), (Start: 18 @32813 has 54 MA's), (20, 32855), (21, 32894), (22, 32906), (30, 33050), (32, 33077),

Gene: Necropolis_40 Start: 30537, Stop: 30812, Start Num: 18

Candidate Starts for Necropolis_40:

(1, 30090), (2, 30123), (15, 30438), (Start: 18 @30537 has 54 MA's), (21, 30618), (22, 30630), (26, 30708), (27, 30744), (30, 30774), (32, 30801),

Gene: PaintedDog_46 Start: 33151, Stop: 33426, Start Num: 18

Candidate Starts for PaintedDog_46:

(1, 32704), (2, 32737), (3, 32749), (9, 32899), (15, 33052), (Start: 18 @33151 has 54 MA's), (21, 33232), (24, 33289), (26, 33322), (28, 33367), (30, 33388), (32, 33415),

Gene: PeanutPie_40 Start: 30532, Stop: 30807, Start Num: 18

Candidate Starts for PeanutPie_40:

(15, 30433), (Start: 18 @30532 has 54 MA's), (21, 30613), (22, 30625), (26, 30703), (27, 30739), (30, 30769), (32, 30796),

Gene: Phalm_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for Phalm_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: Phayonce_41 Start: 32536, Stop: 32814, Start Num: 17

Candidate Starts for Phayonce_41:

(Start: 17 @32536 has 7 MA's), (21, 32620), (22, 32632), (26, 32710), (30, 32776), (31, 32779), (32, 32803),

Gene: Phegasus_40 Start: 30548, Stop: 30823, Start Num: 18

Candidate Starts for Phegasus_40:

(1, 30101), (2, 30134), (15, 30449), (Start: 18 @30548 has 54 MA's), (21, 30629), (22, 30641), (26, 30719), (27, 30755), (30, 30785), (32, 30812),

Gene: Philonius_42 Start: 29648, Stop: 29914, Start Num: 17

Candidate Starts for Philonius_42:

(5, 29339), (6, 29345), (12, 29456), (Start: 17 @29648 has 7 MA's), (21, 29735), (22, 29747), (24, 29777), (26, 29810), (27, 29846), (30, 29876), (32, 29903),

Gene: Phineas_40 Start: 30908, Stop: 31174, Start Num: 18

Candidate Starts for Phineas_40:

(1, 30461), (2, 30494), (4, 30521), (15, 30809), (Start: 18 @30908 has 54 MA's), (21, 30989), (26, 31070), (27, 31106), (30, 31136), (32, 31163),

Gene: Polkaroo_40 Start: 30544, Stop: 30819, Start Num: 18

Candidate Starts for Polkaroo_40:

(1, 30097), (2, 30130), (4, 30157), (15, 30445), (Start: 18 @30544 has 54 MA's), (21, 30625), (22, 30637), (26, 30715), (27, 30751), (30, 30781), (32, 30808),

Gene: Purky_46 Start: 33014, Stop: 33301, Start Num: 17

Candidate Starts for Purky_46:

(Start: 17 @33014 has 7 MA's), (19, 33047), (21, 33104), (22, 33116), (24, 33164), (26, 33197), (30, 33263), (32, 33290),

Gene: Pygmy_42 Start: 32372, Stop: 32638, Start Num: 18

Candidate Starts for Pygmy_42:

(1, 31925), (2, 31958), (4, 31985), (15, 32273), (Start: 18 @32372 has 54 MA's), (21, 32453), (26, 32534), (27, 32570), (30, 32600), (32, 32627),

Gene: QueenHazel_37 Start: 30251, Stop: 30526, Start Num: 18

Candidate Starts for QueenHazel_37:

(15, 30152), (Start: 18 @30251 has 54 MA's), (21, 30332), (22, 30344), (26, 30422), (27, 30458), (30, 30488), (32, 30515),

Gene: Rubeelu_45 Start: 31709, Stop: 31996, Start Num: 17

Candidate Starts for Rubeelu_45:

(5, 31400), (6, 31406), (12, 31517), (Start: 17 @31709 has 7 MA's), (19, 31742), (21, 31799), (23, 31844), (24, 31859), (26, 31892), (28, 31937), (29, 31955), (30, 31958), (32, 31985),

Gene: Shipwreck_42 Start: 32347, Stop: 32613, Start Num: 18

Candidate Starts for Shipwreck_42:

(1, 31900), (2, 31933), (4, 31960), (15, 32248), (Start: 18 @32347 has 54 MA's), (21, 32428), (26, 32509), (27, 32545), (30, 32575), (32, 32602),

Gene: Sonah_40 Start: 30526, Stop: 30801, Start Num: 18

Candidate Starts for Sonah_40:

(1, 30079), (2, 30112), (15, 30427), (Start: 18 @30526 has 54 MA's), (21, 30607), (22, 30619), (26, 30697), (27, 30733), (30, 30763), (32, 30790),

Gene: StevieRay_40 Start: 30489, Stop: 30764, Start Num: 18

Candidate Starts for StevieRay_40:

(1, 30042), (2, 30075), (4, 30102), (15, 30390), (Start: 18 @30489 has 54 MA's), (21, 30570), (22, 30582), (26, 30660), (27, 30696), (30, 30726), (32, 30753),

Gene: StressBall_40 Start: 30787, Stop: 31062, Start Num: 18

Candidate Starts for StressBall_40:

(1, 30340), (2, 30373), (4, 30400), (15, 30688), (Start: 18 @30787 has 54 MA's), (21, 30868), (22, 30880), (26, 30958), (27, 30994), (30, 31024), (32, 31051),

Gene: Techage_40 Start: 30566, Stop: 30841, Start Num: 18

Candidate Starts for Techage_40:

(1, 30119), (2, 30152), (15, 30467), (Start: 18 @30566 has 54 MA's), (21, 30647), (22, 30659), (26, 30737), (27, 30773), (30, 30803), (32, 30830),

Gene: Thespis_40 Start: 30523, Stop: 30798, Start Num: 18

Candidate Starts for Thespis_40:

(1, 30076), (2, 30109), (15, 30424), (Start: 18 @30523 has 54 MA's), (21, 30604), (22, 30616), (26, 30694), (27, 30730), (30, 30760), (32, 30787),

Gene: ThulaThula_47 Start: 34909, Stop: 35193, Start Num: 18

Candidate Starts for ThulaThula_47:

(10, 34690), (13, 34732), (14, 34804), (Start: 18 @34909 has 54 MA's), (21, 34996), (22, 35008), (23, 35041), (24, 35056), (26, 35089), (28, 35134), (29, 35152), (30, 35155), (32, 35182),

Gene: Venti_40 Start: 30540, Stop: 30815, Start Num: 18

Candidate Starts for Venti_40:

(1, 30093), (2, 30126), (15, 30441), (Start: 18 @30540 has 54 MA's), (21, 30621), (22, 30633), (26, 30711), (27, 30747), (30, 30777), (32, 30804),

Gene: Vidya_40 Start: 30573, Stop: 30848, Start Num: 18

Candidate Starts for Vidya_40:

(1, 30126), (2, 30159), (15, 30474), (Start: 18 @30573 has 54 MA's), (21, 30654), (22, 30666), (26, 30744), (27, 30780), (30, 30810), (32, 30837),

Gene: Willsammy_39 Start: 30270, Stop: 30545, Start Num: 18

Candidate Starts for Willsammy_39:

(1, 29823), (2, 29856), (4, 29883), (15, 30171), (Start: 18 @30270 has 54 MA's), (21, 30351), (22, 30363), (26, 30441), (27, 30477), (30, 30507), (32, 30534),

Gene: Xeno_42 Start: 29865, Stop: 30140, Start Num: 18

Candidate Starts for Xeno_42:

(1, 29418), (2, 29451), (15, 29766), (Start: 18 @29865 has 54 MA's), (21, 29946), (22, 29958), (26, 30036), (27, 30072), (30, 30102), (32, 30129),

Gene: Xula_36 Start: 29775, Stop: 30050, Start Num: 18

Candidate Starts for Xula_36:

(15, 29676), (Start: 18 @29775 has 54 MA's), (21, 29856), (22, 29868), (26, 29946), (27, 29982), (29, 30009), (30, 30012), (32, 30039),

Gene: Zilizebeth_40 Start: 30572, Stop: 30847, Start Num: 18

Candidate Starts for Zilizebeth_40:

(1, 30125), (2, 30158), (15, 30473), (Start: 18 @30572 has 54 MA's), (21, 30653), (22, 30665), (26, 30743), (27, 30779), (30, 30809), (32, 30836),