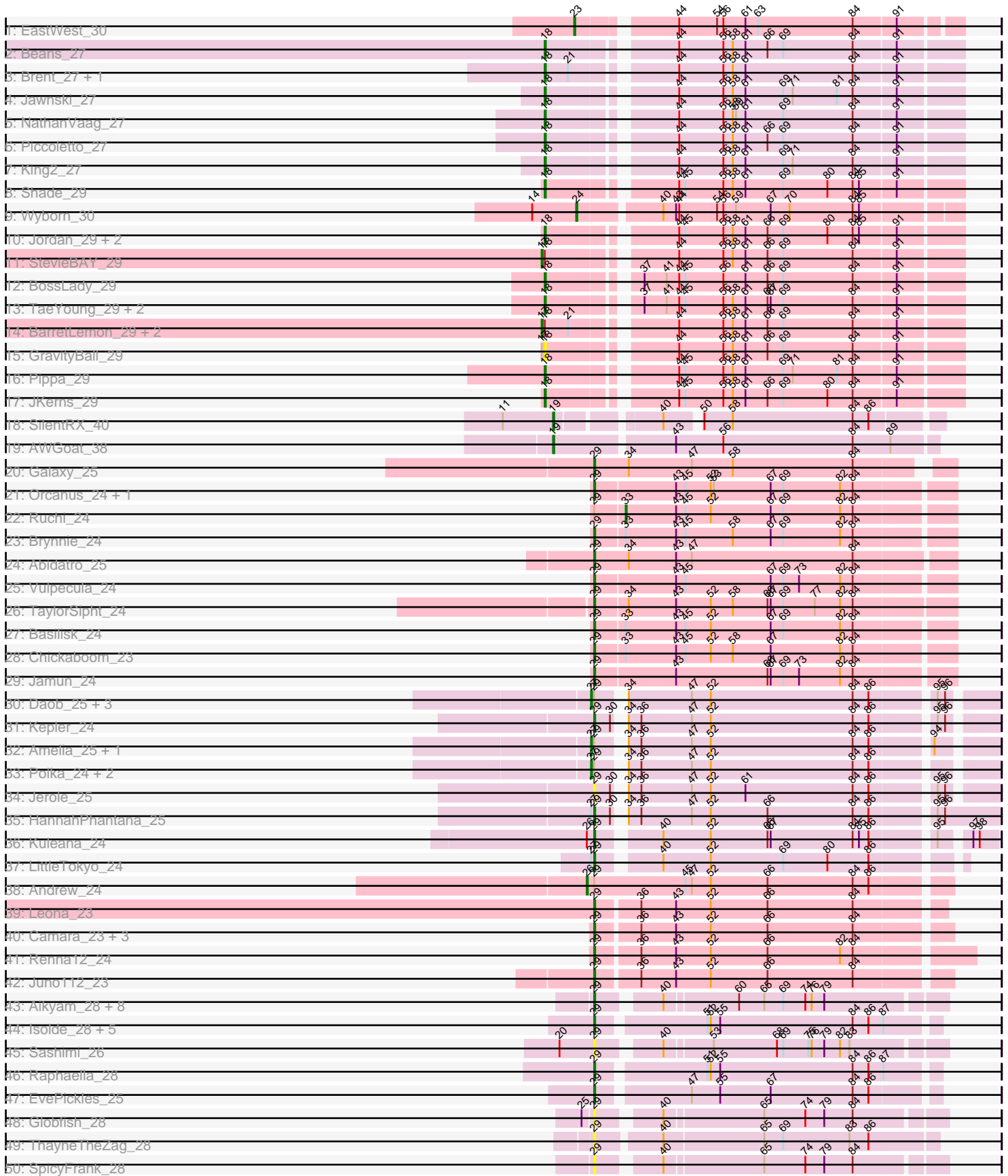
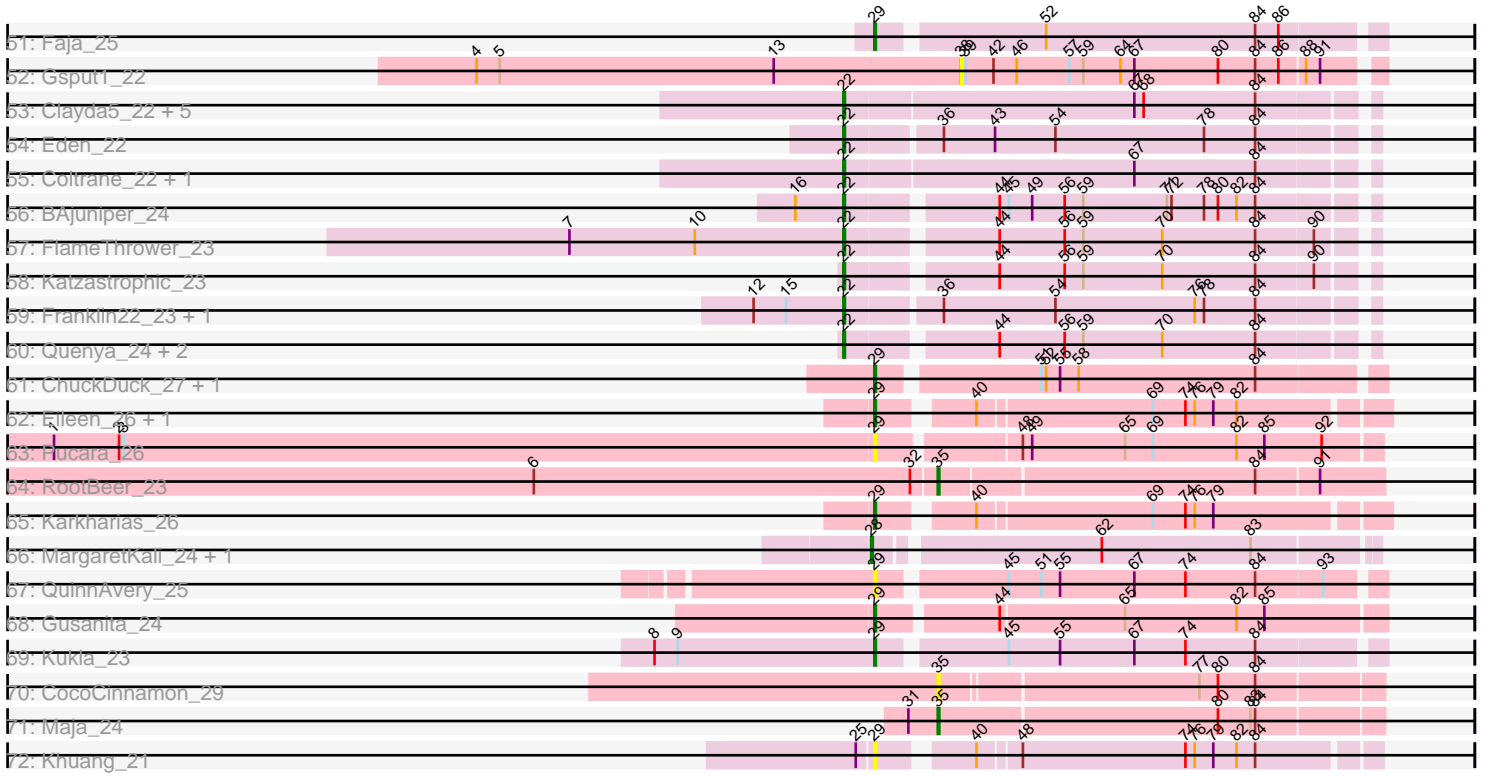


Pham 196395



Pham 196395



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 196395 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196395 has 114 members, 21 are drafts.

Phages represented in each track:

- Track 1 : EastWest_30
- Track 2 : Beans_27
- Track 3 : Brent_27, Franzy_27
- Track 4 : Jawnski_27
- Track 5 : NathanVaag_27
- Track 6 : Piccoletto_27
- Track 7 : King2_27
- Track 8 : Shade_29
- Track 9 : Wyborn_30
- Track 10 : Jordan_29, Zartrosa_29, Sonny_29
- Track 11 : StevieBAY_29
- Track 12 : BossLady_29
- Track 13 : TaeYoung_29, Martha_29, Grekaycon_29
- Track 14 : BarretLemon_29, LeeroyJ_29, Timinator_29
- Track 15 : GravityBall_29
- Track 16 : Pippa_29
- Track 17 : JKerns_29
- Track 18 : SilentRX_40
- Track 19 : AWGoat_38
- Track 20 : Galaxy_25
- Track 21 : Orcanus_24, Eesa_24
- Track 22 : Ruchi_24
- Track 23 : Brynnie_24
- Track 24 : Abidatro_25
- Track 25 : Vulpecula_24
- Track 26 : TaylorSipht_24
- Track 27 : Basilisk_24
- Track 28 : Chickaboom_23
- Track 29 : Jamun_24
- Track 30 : Daob_25, Melons_25, Cote_25, Lunar_25
- Track 31 : Kepler_24
- Track 32 : Amelia_25, Coral_24
- Track 33 : Polka_24, Bedetta_25, Colusalem_24
- Track 34 : Jerole_25
- Track 35 : HannahPhantana_25
- Track 36 : Kuleana_24
- Track 37 : LittleTokyo_24

- Track 38 : Andrew_24
- Track 39 : Leona_23
- Track 40 : Camara_23, KHumphrey_23, PhluffyCoco_23, RedFox_23
- Track 41 : Renna12_24
- Track 42 : Juno112_23
- Track 43 : Aikyam_28, CookieBear_29, RadFad_28, Richie_28, Auxilium_28, Hillester_28, YoungHarleezy_28, MidnightRain_28, BenchScraper_28
- Track 44 : Isolde_28, Phrank15_27, Sakai_28, BillyTP_28, Lawnathon_28, Gorpy_28
- Track 45 : Sashimi_26
- Track 46 : Raphaella_28
- Track 47 : EvePickles_25
- Track 48 : Globfish_28
- Track 49 : ThayneTheZag_28
- Track 50 : SpicyFrank_28
- Track 51 : Faja_25
- Track 52 : Gspu1_22
- Track 53 : Clayda5_22, Skylord_22, Rollins_22, Bernstein_22, Armstrong_22, Vitas_22
- Track 54 : Eden_22
- Track 55 : Coltrane_22, Brahms_22
- Track 56 : BAjuniper_24
- Track 57 : FlameThrower_23
- Track 58 : Katzastrophic_23
- Track 59 : Franklin22_23, Gack_22
- Track 60 : Quenya_24, Celaena_23, Bachaco_23
- Track 61 : ChuckDuck_27, KayMoney_27
- Track 62 : Eileen_26, Peas_26
- Track 63 : Pucara_26
- Track 64 : RootBeer_23
- Track 65 : Karkharias_26
- Track 66 : MargaretKali_24, Kumotta_24
- Track 67 : QuinnAvery_25
- Track 68 : Gusanita_24
- Track 69 : Kukla_23
- Track 70 : CocoCinnamon_29
- Track 71 : Maja_24
- Track 72 : Khuang_21

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

The start number called the most often in the published annotations is 29, it was called in 38 of the 93 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro_25, Aikyam_28, Auxilium_28, Basilisk_24, BenchScraper_28, BillyTP_28, Brynnie_24, Camara_23, Chickaboom_23, ChuckDuck_27, CookieBear_29, Eesa_24, Eileen_26, EvePickles_25, Faja_25, Galaxy_25, Globfish_28, Gorpy_28, Gusanita_24, HannahPhantana_25, Hillester_28, Isolde_28, Jamun_24, Jerole_25, Juno112_23, KHumphrey_23, Karkharias_26, KayMoney_27, Kepler_24,

Khuang_21, Kukla_23, Kuleana_24, Lawnathon_28, Leona_23, LittleTokyo_24, MidnightRain_28, Orcanus_24, Peas_26, PhluffyCoco_23, Phrank15_27, Pucara_26, QuinnAvery_25, RadFad_28, Raphaella_28, RedFox_23, Renna12_24, Richie_28, Sakai_28, Sashimi_26, SpicyFrank_28, TaylorSipht_24, ThayneTheZag_28, Vulpecula_24, YoungHarleezy_28,

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

- Amelia_25, Andrew_24, Bedetta_25, Colusalem_24, Coral_24, Cote_25, Daob_25, Lunar_25, Melons_25, Polka_24, Ruchi_24,

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

- AWGoat_38, Armstrong_22, BAjuniper_24, Bachaco_23, BarretLemon_29, Beans_27, Bernstein_22, BossLady_29, Brahms_22, Brent_27, Celaena_23, Clayda5_22, CocoCinnamon_29, Coltrane_22, EastWest_30, Eden_22, FlameThrower_23, Franklin22_23, Franzy_27, Gack_22, GravityBall_29, Grekaycon_29, Gsput1_22, JKerns_29, Jawnski_27, Jordan_29, Katzastrophic_23, King2_27, Kumotta_24, LeeroyJ_29, Maja_24, MargaretKali_24, Martha_29, NathanVaag_27, Piccoletto_27, Pippa_29, Quenya_24, Rollins_22, RootBeer_23, Shade_29, SilentRX_40, Skylord_22, Sonny_29, StevieBAY_29, TaeYoung_29, Timinator_29, Vitas_22, Wyborn_30, Zartrosa_29,

Summary by start number:

Start 17:

- Found in 5 of 114 (4.4%) of genes in pham
- Manual Annotations of this start: 4 of 93
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BarretLemon_29 (AO2), LeeroyJ_29 (AO2), StevieBAY_29 (AO2), Timinator_29 (AO2),

Start 18:

- Found in 22 of 114 (19.3%) of genes in pham
- Manual Annotations of this start: 17 of 93
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Beans_27 (AO1), BossLady_29 (AO2), Brent_27 (AO1), Franzy_27 (AO1), GravityBall_29 (AO2), Grekaycon_29 (AO2), JKerns_29 (AO2), Jawnski_27 (AO1), Jordan_29 (AO2), King2_27 (AO1), Martha_29 (AO2), NathanVaag_27 (AO1), Piccoletto_27 (AO1), Pippa_29 (AO2), Shade_29 (AO2), Sonny_29 (AO2), TaeYoung_29 (AO2), Zartrosa_29 (AO2),

Start 19:

- Found in 2 of 114 (1.8%) of genes in pham
- Manual Annotations of this start: 2 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AWGoat_38 (AP4), SilentRX_40 (AP4),

Start 22:

- Found in 17 of 114 (14.9%) of genes in pham
- Manual Annotations of this start: 17 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Armstrong_22 (EB), BAjuniper_24 (EB), Bachaco_23 (EB), Bernstein_22 (EB), Brahms_22 (EB), Celaena_23 (EB), Clayda5_22 (EB), Coltrane_22 (EB), Eden_22 (EB), FlameThrower_23 (EB),

Franklin22_23 (EB), Gack_22 (EB), Katzastrophic_23 (EB), Quenya_24 (EB), Rollins_22 (EB), Skylord_22 (EB), Vitas_22 (EB),

Start 23:

- Found in 1 of 114 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EastWest_30 (AO),

Start 24:

- Found in 1 of 114 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wyborn_30 (AO2),

Start 26:

- Found in 2 of 114 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Andrew_24 (AS3),

Start 27:

- Found in 11 of 114 (9.6%) of genes in pham
- Manual Annotations of this start: 7 of 93
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Amelia_25 (AS2), Bedetta_25 (AS2), Colusalem_24 (AS2), Coral_24 (AS2), Cote_25 (AS2), Daob_25 (AS2), Lunar_25 (AS2), Melons_25 (AS2), Polka_24 (AS2),

Start 28:

- Found in 2 of 114 (1.8%) of genes in pham
- Manual Annotations of this start: 2 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumotta_24 (FB), MargaretKali_24 (FB),

Start 29:

- Found in 65 of 114 (57.0%) of genes in pham
- Manual Annotations of this start: 38 of 93
- Called 83.1% of time when present
- Phage (with cluster) where this start called: Abidatro_25 (AS1), Aikyam_28 (AY), Auxilium_28 (AY), Basilisk_24 (AS1), BenchScraper_28 (AY), BillyTP_28 (AY), Brynnie_24 (AS1), Camara_23 (AS3), Chickaboom_23 (AS1), ChuckDuck_27 (FA), CookieBear_29 (AY), Eesa_24 (AS1), Eileen_26 (FA), EvePickles_25 (AY), Faja_25 (AY), Galaxy_25 (AS1), Globfish_28 (AY), Gorpy_28 (AY), Gusanita_24 (FF), HannahPhantana_25 (AS2), Hillester_28 (AY), Isolde_28 (AY), Jamun_24 (AS1), Jerole_25 (AS2), Juno112_23 (AS3), KHumphrey_23 (AS3), Karkharias_26 (FA), KayMoney_27 (FA), Kepler_24 (AS2), Khuang_21 (UNK), Kukla_23 (FJ), Kuleana_24 (AS2), Lawnathon_28 (AY), Leona_23 (AS3), LittleTokyo_24 (AS2), MidnightRain_28 (AY), Orcanus_24 (AS1), Peas_26 (FA), PhluffyCoco_23 (AS3), Phrank15_27 (AY), Pucara_26 (FA), QuinnAvery_25 (FF), RadFad_28 (AY), Raphaella_28 (AY), RedFox_23 (AS3), Renna12_24 (AS3), Richie_28 (AY), Sakai_28 (AY), Sashimi_26 (AY), SpicyFrank_28 (AY), TaylorSipt_24 (AS1), ThayneTheZag_28 (AY), Vulpecula_24 (AS1), YoungHarleezy_28 (AY),

Start 33:

- Found in 4 of 114 (3.5%) of genes in pham
- Manual Annotations of this start: 1 of 93
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Ruchi_24 (AS1),

Start 35:

- Found in 3 of 114 (2.6%) of genes in pham
- Manual Annotations of this start: 2 of 93
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CocoCinnamon_29 (FO), Maja_24 (FO), RootBeer_23 (FA),

Start 38:

- Found in 1 of 114 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gspu1_22 (CU2),

Summary by clusters:

There are 16 clusters represented in this pham: AS3, AS2, AS1, CU2, AO1, AO, AP4, EB, FA, FB, AO2, FF, AY, FJ, UNK, FO,

Info for manual annotations of cluster AO:

- Start number 23 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 18 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 17 was manually annotated 4 times for cluster AO2.
- Start number 18 was manually annotated 10 times for cluster AO2.
- Start number 24 was manually annotated 1 time for cluster AO2.

Info for manual annotations of cluster AP4:

- Start number 19 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster AS1:

- Start number 29 was manually annotated 10 times for cluster AS1.
- Start number 33 was manually annotated 1 time for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 27 was manually annotated 7 times for cluster AS2.
- Start number 29 was manually annotated 4 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 26 was manually annotated 1 time for cluster AS3.
- Start number 29 was manually annotated 5 times for cluster AS3.

Info for manual annotations of cluster AY:

- Start number 29 was manually annotated 13 times for cluster AY.

Info for manual annotations of cluster EB:

- Start number 22 was manually annotated 17 times for cluster EB.

Info for manual annotations of cluster FA:

- Start number 29 was manually annotated 4 times for cluster FA.
- Start number 35 was manually annotated 1 time for cluster FA.

Info for manual annotations of cluster FB:

- Start number 28 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FF:

- Start number 29 was manually annotated 1 time for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 29 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FO:

- Start number 35 was manually annotated 1 time for cluster FO.

Gene Information:

Gene: AWGoat_38 Start: 34355, Stop: 34708, Start Num: 19

Candidate Starts for AWGoat_38:

(Start: 19 @34355 has 2 MA's), (43, 34463), (56, 34508), (84, 34631), (89, 34667),

Gene: Abidatro_25 Start: 18908, Stop: 19243, Start Num: 29

Candidate Starts for Abidatro_25:

(Start: 29 @18908 has 38 MA's), (34, 18941), (43, 18986), (47, 19001), (84, 19154),

Gene: Aikyam_28 Start: 20431, Stop: 20736, Start Num: 29

Candidate Starts for Aikyam_28:

(Start: 29 @20431 has 38 MA's), (40, 20482), (60, 20548), (65, 20572), (69, 20590), (74, 20611), (76, 20617), (79, 20629),

Gene: Amelia_25 Start: 18043, Stop: 18393, Start Num: 27

Candidate Starts for Amelia_25:

(Start: 27 @18043 has 7 MA's), (Start: 29 @18046 has 38 MA's), (34, 18064), (36, 18076), (47, 18124), (52, 18142), (84, 18277), (86, 18292), (94, 18343),

Gene: Andrew_24 Start: 18042, Stop: 18377, Start Num: 26

Candidate Starts for Andrew_24:

(Start: 26 @18042 has 1 MA's), (Start: 29 @18048 has 38 MA's), (45, 18135), (47, 18141), (52, 18159), (66, 18213), (84, 18294), (86, 18309),

Gene: Armstrong_22 Start: 17107, Stop: 17433, Start Num: 22

Candidate Starts for Armstrong_22:

(Start: 22 @17107 has 17 MA's), (67, 17290), (68, 17296), (84, 17368),

Gene: Auxilium_28 Start: 20421, Stop: 20726, Start Num: 29
Candidate Starts for Auxilium_28:
(Start: 29 @20421 has 38 MA's), (40, 20472), (60, 20538), (65, 20562), (69, 20580), (74, 20601), (76, 20607), (79, 20619),

Gene: BAjuniper_24 Start: 20341, Stop: 20658, Start Num: 22
Candidate Starts for BAjuniper_24:
(16, 20311), (Start: 22 @20341 has 17 MA's), (44, 20428), (45, 20434), (49, 20449), (56, 20470), (59, 20482), (71, 20536), (72, 20539), (78, 20560), (80, 20569), (82, 20581), (84, 20593),

Gene: Bachaco_23 Start: 20374, Stop: 20691, Start Num: 22
Candidate Starts for Bachaco_23:
(Start: 22 @20374 has 17 MA's), (44, 20461), (56, 20503), (59, 20515), (70, 20566), (84, 20626),

Gene: BarretLemon_29 Start: 25316, Stop: 25687, Start Num: 17
Candidate Starts for BarretLemon_29:
(Start: 17 @25316 has 4 MA's), (Start: 18 @25319 has 17 MA's), (21, 25340), (44, 25424), (56, 25466), (58, 25475), (61, 25487), (66, 25508), (69, 25523), (84, 25589), (91, 25628),

Gene: Basilisk_24 Start: 19320, Stop: 19652, Start Num: 29
Candidate Starts for Basilisk_24:
(Start: 29 @19320 has 38 MA's), (Start: 33 @19347 has 1 MA's), (43, 19395), (45, 19404), (52, 19428), (67, 19485), (69, 19497), (82, 19551), (84, 19563),

Gene: Beans_27 Start: 24983, Stop: 25351, Start Num: 18
Candidate Starts for Beans_27:
(Start: 18 @24983 has 17 MA's), (44, 25088), (56, 25130), (58, 25139), (61, 25151), (66, 25172), (69, 25187), (84, 25253), (91, 25292),

Gene: Bedetta_25 Start: 18047, Stop: 18397, Start Num: 27
Candidate Starts for Bedetta_25:
(Start: 27 @18047 has 7 MA's), (Start: 29 @18050 has 38 MA's), (34, 18068), (36, 18080), (47, 18128), (52, 18146), (84, 18281), (86, 18296),

Gene: BenchScraper_28 Start: 20436, Stop: 20741, Start Num: 29
Candidate Starts for BenchScraper_28:
(Start: 29 @20436 has 38 MA's), (40, 20487), (60, 20553), (65, 20577), (69, 20595), (74, 20616), (76, 20622), (79, 20634),

Gene: Bernstein_22 Start: 17162, Stop: 17488, Start Num: 22
Candidate Starts for Bernstein_22:
(Start: 22 @17162 has 17 MA's), (67, 17345), (68, 17351), (84, 17423),

Gene: BillyTP_28 Start: 20144, Stop: 20452, Start Num: 29
Candidate Starts for BillyTP_28:
(Start: 29 @20144 has 38 MA's), (51, 20240), (52, 20243), (55, 20252), (84, 20378), (86, 20393), (87, 20405),

Gene: BossLady_29 Start: 25299, Stop: 25667, Start Num: 18
Candidate Starts for BossLady_29:
(Start: 18 @25299 has 17 MA's), (37, 25371), (41, 25392), (44, 25404), (45, 25410), (56, 25446), (61, 25467), (66, 25488), (69, 25503), (84, 25569), (91, 25608),

Gene: Brahms_22 Start: 17110, Stop: 17436, Start Num: 22

Candidate Starts for Brahms_22:

(Start: 22 @17110 has 17 MA's), (67, 17293), (84, 17371),

Gene: Brent_27 Start: 24986, Stop: 25354, Start Num: 18

Candidate Starts for Brent_27:

(Start: 18 @24986 has 17 MA's), (21, 25007), (44, 25091), (56, 25133), (58, 25142), (61, 25154), (84, 25256), (91, 25295),

Gene: Brynnie_24 Start: 19128, Stop: 19460, Start Num: 29

Candidate Starts for Brynnie_24:

(Start: 29 @19128 has 38 MA's), (Start: 33 @19155 has 1 MA's), (43, 19203), (45, 19212), (58, 19257), (67, 19293), (69, 19305), (82, 19359), (84, 19371),

Gene: Camara_23 Start: 17623, Stop: 17946, Start Num: 29

Candidate Starts for Camara_23:

(Start: 29 @17623 has 38 MA's), (36, 17662), (43, 17695), (52, 17728), (66, 17782), (84, 17863),

Gene: Celaena_23 Start: 20322, Stop: 20639, Start Num: 22

Candidate Starts for Celaena_23:

(Start: 22 @20322 has 17 MA's), (44, 20409), (56, 20451), (59, 20463), (70, 20514), (84, 20574),

Gene: Chickaboom_23 Start: 18049, Stop: 18381, Start Num: 29

Candidate Starts for Chickaboom_23:

(Start: 29 @18049 has 38 MA's), (Start: 33 @18076 has 1 MA's), (43, 18124), (45, 18133), (52, 18157), (58, 18178), (67, 18214), (82, 18280), (84, 18292),

Gene: ChuckDuck_27 Start: 20261, Stop: 20569, Start Num: 29

Candidate Starts for ChuckDuck_27:

(Start: 29 @20261 has 38 MA's), (51, 20357), (52, 20360), (55, 20369), (58, 20381), (84, 20495),

Gene: Clayda5_22 Start: 17113, Stop: 17439, Start Num: 22

Candidate Starts for Clayda5_22:

(Start: 22 @17113 has 17 MA's), (67, 17296), (68, 17302), (84, 17374),

Gene: CocoCinnamon_29 Start: 20011, Stop: 20283, Start Num: 35

Candidate Starts for CocoCinnamon_29:

(Start: 35 @20011 has 2 MA's), (77, 20170), (80, 20182), (84, 20206),

Gene: Coltrane_22 Start: 17110, Stop: 17436, Start Num: 22

Candidate Starts for Coltrane_22:

(Start: 22 @17110 has 17 MA's), (67, 17293), (84, 17371),

Gene: Colusalem_24 Start: 17886, Stop: 18236, Start Num: 27

Candidate Starts for Colusalem_24:

(Start: 27 @17886 has 7 MA's), (Start: 29 @17889 has 38 MA's), (34, 17907), (36, 17919), (47, 17967), (52, 17985), (84, 18120), (86, 18135),

Gene: CookieBear_29 Start: 20421, Stop: 20726, Start Num: 29

Candidate Starts for CookieBear_29:

(Start: 29 @20421 has 38 MA's), (40, 20472), (60, 20538), (65, 20562), (69, 20580), (74, 20601), (76, 20607), (79, 20619),

Gene: Coral_24 Start: 17882, Stop: 18232, Start Num: 27

Candidate Starts for Coral_24:

(Start: 27 @17882 has 7 MA's), (Start: 29 @17885 has 38 MA's), (34, 17903), (36, 17915), (47, 17963), (52, 17981), (84, 18116), (86, 18131), (94, 18182),

Gene: Cote_25 Start: 18034, Stop: 18384, Start Num: 27

Candidate Starts for Cote_25:

(Start: 27 @18034 has 7 MA's), (Start: 29 @18037 has 38 MA's), (34, 18055), (47, 18115), (52, 18133), (84, 18268), (86, 18283), (95, 18337), (96, 18343),

Gene: Daob_25 Start: 18039, Stop: 18389, Start Num: 27

Candidate Starts for Daob_25:

(Start: 27 @18039 has 7 MA's), (Start: 29 @18042 has 38 MA's), (34, 18060), (47, 18120), (52, 18138), (84, 18273), (86, 18288), (95, 18342), (96, 18348),

Gene: EastWest_30 Start: 25176, Stop: 25514, Start Num: 23

Candidate Starts for EastWest_30:

(Start: 23 @25176 has 1 MA's), (44, 25257), (54, 25293), (56, 25299), (61, 25320), (63, 25332), (84, 25422), (91, 25461),

Gene: Eden_22 Start: 17389, Stop: 17712, Start Num: 22

Candidate Starts for Eden_22:

(Start: 22 @17389 has 17 MA's), (36, 17446), (43, 17479), (54, 17518), (78, 17614), (84, 17647),

Gene: Eesa_24 Start: 19277, Stop: 19609, Start Num: 29

Candidate Starts for Eesa_24:

(Start: 29 @19277 has 38 MA's), (43, 19352), (45, 19361), (52, 19385), (53, 19388), (67, 19442), (69, 19454), (82, 19508), (84, 19520),

Gene: Eileen_26 Start: 20113, Stop: 20415, Start Num: 29

Candidate Starts for Eileen_26:

(Start: 29 @20113 has 38 MA's), (40, 20164), (69, 20272), (74, 20293), (76, 20299), (79, 20311), (82, 20326),

Gene: EvePickles_25 Start: 18992, Stop: 19300, Start Num: 29

Candidate Starts for EvePickles_25:

(Start: 29 @18992 has 38 MA's), (47, 19073), (55, 19100), (67, 19148), (84, 19226), (86, 19241),

Gene: Faja_25 Start: 18886, Stop: 19194, Start Num: 29

Candidate Starts for Faja_25:

(Start: 29 @18886 has 38 MA's), (52, 18985), (84, 19120), (86, 19135),

Gene: FlameThrower_23 Start: 19859, Stop: 20176, Start Num: 22

Candidate Starts for FlameThrower_23:

(7, 19682), (10, 19763), (Start: 22 @19859 has 17 MA's), (44, 19946), (56, 19988), (59, 20000), (70, 20051), (84, 20111), (90, 20147),

Gene: Franklin22_23 Start: 17574, Stop: 17897, Start Num: 22

Candidate Starts for Franklin22_23:

(12, 17517), (15, 17538), (Start: 22 @17574 has 17 MA's), (36, 17631), (54, 17703), (76, 17793), (78, 17799), (84, 17832),

Gene: Franzy_27 Start: 24985, Stop: 25353, Start Num: 18

Candidate Starts for Franzy_27:

(Start: 18 @24985 has 17 MA's), (21, 25006), (44, 25090), (56, 25132), (58, 25141), (61, 25153), (84, 25255), (91, 25294),

Gene: Gack_22 Start: 17460, Stop: 17783, Start Num: 22

Candidate Starts for Gack_22:

(12, 17403), (15, 17424), (Start: 22 @17460 has 17 MA's), (36, 17517), (54, 17589), (76, 17679), (78, 17685), (84, 17718),

Gene: Galaxy_25 Start: 19013, Stop: 19336, Start Num: 29

Candidate Starts for Galaxy_25:

(Start: 29 @19013 has 38 MA's), (34, 19046), (47, 19106), (58, 19145), (84, 19259),

Gene: Globfish_28 Start: 20655, Stop: 20960, Start Num: 29

Candidate Starts for Globfish_28:

(25, 20646), (Start: 29 @20655 has 38 MA's), (40, 20706), (65, 20796), (74, 20835), (79, 20853), (84, 20880),

Gene: Gorpy_28 Start: 20369, Stop: 20677, Start Num: 29

Candidate Starts for Gorpy_28:

(Start: 29 @20369 has 38 MA's), (51, 20465), (52, 20468), (55, 20477), (84, 20603), (86, 20618), (87, 20630),

Gene: GravityBall_29 Start: 25318, Stop: 25686, Start Num: 18

Candidate Starts for GravityBall_29:

(Start: 17 @25315 has 4 MA's), (Start: 18 @25318 has 17 MA's), (44, 25423), (56, 25465), (58, 25474), (61, 25486), (66, 25507), (69, 25522), (84, 25588), (91, 25627),

Gene: Grekaycon_29 Start: 25245, Stop: 25613, Start Num: 18

Candidate Starts for Grekaycon_29:

(Start: 18 @25245 has 17 MA's), (37, 25317), (41, 25338), (44, 25350), (45, 25356), (56, 25392), (58, 25401), (61, 25413), (66, 25434), (67, 25437), (69, 25449), (84, 25515), (91, 25554),

Gene: Gspu1_22 Start: 18136, Stop: 18396, Start Num: 38

Candidate Starts for Gspu1_22:

(4, 17824), (5, 17839), (13, 18016), (38, 18136), (39, 18139), (42, 18157), (46, 18172), (57, 18205), (59, 18214), (64, 18238), (67, 18247), (80, 18301), (84, 18325), (86, 18340), (88, 18355), (91, 18364),

Gene: Gusanita_24 Start: 19423, Stop: 19737, Start Num: 29

Candidate Starts for Gusanita_24:

(Start: 29 @19423 has 38 MA's), (44, 19495), (65, 19573), (82, 19645), (85, 19663),

Gene: HannahPhantana_25 Start: 18037, Stop: 18396, Start Num: 29

Candidate Starts for HannahPhantana_25:

(Start: 27 @18034 has 7 MA's), (Start: 29 @18037 has 38 MA's), (30, 18052), (34, 18055), (36, 18067), (47, 18115), (52, 18133), (66, 18187), (84, 18268), (86, 18283), (95, 18337), (96, 18343),

Gene: Hillester_28 Start: 20421, Stop: 20726, Start Num: 29

Candidate Starts for Hillester_28:

(Start: 29 @20421 has 38 MA's), (40, 20472), (60, 20538), (65, 20562), (69, 20580), (74, 20601), (76, 20607), (79, 20619),

Gene: Isolde_28 Start: 20195, Stop: 20503, Start Num: 29

Candidate Starts for Isolde_28:

(Start: 29 @20195 has 38 MA's), (51, 20291), (52, 20294), (55, 20303), (84, 20429), (86, 20444), (87, 20456),

Gene: JKerns_29 Start: 25272, Stop: 25640, Start Num: 18

Candidate Starts for JKerns_29:

(Start: 18 @25272 has 17 MA's), (44, 25377), (45, 25383), (56, 25419), (58, 25428), (61, 25440), (66, 25461), (69, 25476), (80, 25518), (84, 25542), (91, 25581),

Gene: Jamun_24 Start: 18726, Stop: 19058, Start Num: 29

Candidate Starts for Jamun_24:

(Start: 29 @18726 has 38 MA's), (43, 18801), (66, 18888), (67, 18891), (69, 18903), (73, 18918), (82, 18957), (84, 18969),

Gene: Jawnski_27 Start: 24995, Stop: 25363, Start Num: 18

Candidate Starts for Jawnski_27:

(Start: 18 @24995 has 17 MA's), (44, 25100), (56, 25142), (58, 25151), (61, 25163), (69, 25199), (71, 25208), (81, 25250), (84, 25265), (91, 25304),

Gene: Jerole_25 Start: 18034, Stop: 18381, Start Num: 29

Candidate Starts for Jerole_25:

(Start: 29 @18034 has 38 MA's), (30, 18049), (34, 18052), (36, 18064), (47, 18112), (52, 18130), (61, 18163), (84, 18265), (86, 18280), (95, 18334), (96, 18340),

Gene: Jordan_29 Start: 25242, Stop: 25610, Start Num: 18

Candidate Starts for Jordan_29:

(Start: 18 @25242 has 17 MA's), (44, 25347), (45, 25353), (56, 25389), (58, 25398), (61, 25410), (66, 25431), (69, 25446), (80, 25488), (84, 25512), (85, 25518), (91, 25551),

Gene: Juno112_23 Start: 17622, Stop: 17945, Start Num: 29

Candidate Starts for Juno112_23:

(Start: 29 @17622 has 38 MA's), (36, 17661), (43, 17694), (52, 17727), (66, 17781), (84, 17862),

Gene: KHumphrey_23 Start: 17620, Stop: 17943, Start Num: 29

Candidate Starts for KHumphrey_23:

(Start: 29 @17620 has 38 MA's), (36, 17659), (43, 17692), (52, 17725), (66, 17779), (84, 17860),

Gene: Karkharias_26 Start: 20115, Stop: 20417, Start Num: 29

Candidate Starts for Karkharias_26:

(Start: 29 @20115 has 38 MA's), (40, 20166), (69, 20274), (74, 20295), (76, 20301), (79, 20313),

Gene: Katzastrophic_23 Start: 19980, Stop: 20297, Start Num: 22

Candidate Starts for Katzastrophic_23:

(Start: 22 @19980 has 17 MA's), (44, 20067), (56, 20109), (59, 20121), (70, 20172), (84, 20232), (90, 20268),

Gene: KayMoney_27 Start: 20265, Stop: 20573, Start Num: 29

Candidate Starts for KayMoney_27:

(Start: 29 @20265 has 38 MA's), (51, 20361), (52, 20364), (55, 20373), (58, 20385), (84, 20499),

Gene: Kepler_24 Start: 17872, Stop: 18219, Start Num: 29

Candidate Starts for Kepler_24:

(Start: 29 @17872 has 38 MA's), (30, 17887), (34, 17890), (36, 17902), (47, 17950), (52, 17968), (84, 18103), (86, 18118), (95, 18172), (96, 18178),

Gene: Khuang_21 Start: 17688, Stop: 17984, Start Num: 29

Candidate Starts for Khuang_21:

(25, 17679), (Start: 29 @17688 has 38 MA's), (40, 17739), (48, 17763), (74, 17868), (76, 17874), (79, 17886), (82, 17901), (84, 17913),

Gene: King2_27 Start: 24982, Stop: 25350, Start Num: 18

Candidate Starts for King2_27:

(Start: 18 @24982 has 17 MA's), (44, 25087), (56, 25129), (58, 25138), (61, 25150), (69, 25186), (71, 25195), (84, 25252), (91, 25291),

Gene: Kukla_23 Start: 18379, Stop: 18687, Start Num: 29

Candidate Starts for Kukla_23:

(8, 18238), (9, 18253), (Start: 29 @18379 has 38 MA's), (45, 18454), (55, 18487), (67, 18535), (74, 18568), (84, 18613),

Gene: Kuleana_24 Start: 17910, Stop: 18254, Start Num: 29

Candidate Starts for Kuleana_24:

(Start: 26 @17904 has 1 MA's), (Start: 29 @17910 has 38 MA's), (40, 17961), (52, 18006), (66, 18060), (67, 18063), (84, 18141), (85, 18147), (86, 18156), (95, 18210), (97, 18231), (98, 18237),

Gene: Kumotta_24 Start: 18861, Stop: 19166, Start Num: 28

Candidate Starts for Kumotta_24:

(Start: 28 @18861 has 2 MA's), (62, 18996), (83, 19092),

Gene: Lawnathon_28 Start: 20289, Stop: 20597, Start Num: 29

Candidate Starts for Lawnathon_28:

(Start: 29 @20289 has 38 MA's), (51, 20385), (52, 20388), (55, 20397), (84, 20523), (86, 20538), (87, 20550),

Gene: LeeroyJ_29 Start: 25315, Stop: 25686, Start Num: 17

Candidate Starts for LeeroyJ_29:

(Start: 17 @25315 has 4 MA's), (Start: 18 @25318 has 17 MA's), (21, 25339), (44, 25423), (56, 25465), (58, 25474), (61, 25486), (66, 25507), (69, 25522), (84, 25588), (91, 25627),

Gene: Leona_23 Start: 17683, Stop: 18000, Start Num: 29

Candidate Starts for Leona_23:

(Start: 29 @17683 has 38 MA's), (36, 17722), (43, 17755), (52, 17788), (66, 17842), (84, 17923),

Gene: LittleTokyo_24 Start: 17866, Stop: 18186, Start Num: 29

Candidate Starts for LittleTokyo_24:

(Start: 27 @17863 has 7 MA's), (Start: 29 @17866 has 38 MA's), (40, 17917), (52, 17962), (69, 18031), (80, 18073), (86, 18112),

Gene: Lunar_25 Start: 18034, Stop: 18384, Start Num: 27

Candidate Starts for Lunar_25:

(Start: 27 @18034 has 7 MA's), (Start: 29 @18037 has 38 MA's), (34, 18055), (47, 18115), (52, 18133), (84, 18268), (86, 18283), (95, 18337), (96, 18343),

Gene: Maja_24 Start: 18850, Stop: 19128, Start Num: 35

Candidate Starts for Maja_24:

(31, 18832), (Start: 35 @18850 has 2 MA's), (80, 19027), (83, 19048), (84, 19051),

Gene: MargaretKali_24 Start: 18496, Stop: 18801, Start Num: 28

Candidate Starts for MargaretKali_24:

(Start: 28 @18496 has 2 MA's), (62, 18631), (83, 18727),

Gene: Martha_29 Start: 25246, Stop: 25614, Start Num: 18

Candidate Starts for Martha_29:

(Start: 18 @25246 has 17 MA's), (37, 25318), (41, 25339), (44, 25351), (45, 25357), (56, 25393), (58, 25402), (61, 25414), (66, 25435), (67, 25438), (69, 25450), (84, 25516), (91, 25555),

Gene: Melons_25 Start: 18034, Stop: 18384, Start Num: 27

Candidate Starts for Melons_25:

(Start: 27 @18034 has 7 MA's), (Start: 29 @18037 has 38 MA's), (34, 18055), (47, 18115), (52, 18133), (84, 18268), (86, 18283), (95, 18337), (96, 18343),

Gene: MidnightRain_28 Start: 20420, Stop: 20725, Start Num: 29

Candidate Starts for MidnightRain_28:

(Start: 29 @20420 has 38 MA's), (40, 20471), (60, 20537), (65, 20561), (69, 20579), (74, 20600), (76, 20606), (79, 20618),

Gene: NathanVaag_27 Start: 24958, Stop: 25326, Start Num: 18

Candidate Starts for NathanVaag_27:

(Start: 18 @24958 has 17 MA's), (44, 25063), (56, 25105), (58, 25114), (59, 25117), (61, 25126), (69, 25162), (84, 25228), (91, 25267),

Gene: Orcanus_24 Start: 18977, Stop: 19309, Start Num: 29

Candidate Starts for Orcanus_24:

(Start: 29 @18977 has 38 MA's), (43, 19052), (45, 19061), (52, 19085), (53, 19088), (67, 19142), (69, 19154), (82, 19208), (84, 19220),

Gene: Peas_26 Start: 20113, Stop: 20415, Start Num: 29

Candidate Starts for Peas_26:

(Start: 29 @20113 has 38 MA's), (40, 20164), (69, 20272), (74, 20293), (76, 20299), (79, 20311), (82, 20326),

Gene: PhluffyCoco_23 Start: 17622, Stop: 17930, Start Num: 29

Candidate Starts for PhluffyCoco_23:

(Start: 29 @17622 has 38 MA's), (36, 17661), (43, 17694), (52, 17727), (66, 17781), (84, 17862),

Gene: Phrank15_27 Start: 20294, Stop: 20602, Start Num: 29

Candidate Starts for Phrank15_27:

(Start: 29 @20294 has 38 MA's), (51, 20390), (52, 20393), (55, 20402), (84, 20528), (86, 20543), (87, 20555),

Gene: Piccoletto_27 Start: 24960, Stop: 25328, Start Num: 18

Candidate Starts for Piccoletto_27:

(Start: 18 @24960 has 17 MA's), (44, 25065), (56, 25107), (58, 25116), (61, 25128), (66, 25149), (69, 25164), (84, 25230), (91, 25269),

Gene: Pippa_29 Start: 25371, Stop: 25739, Start Num: 18

Candidate Starts for Pippa_29:

(Start: 18 @25371 has 17 MA's), (44, 25476), (45, 25482), (56, 25518), (58, 25527), (61, 25539), (69, 25575), (71, 25584), (81, 25626), (84, 25641), (91, 25680),

Gene: Polka_24 Start: 17889, Stop: 18239, Start Num: 27

Candidate Starts for Polka_24:

(Start: 27 @17889 has 7 MA's), (Start: 29 @17892 has 38 MA's), (34, 17910), (36, 17922), (47, 17970), (52, 17988), (84, 18123), (86, 18138),

Gene: Pucara_26 Start: 20288, Stop: 20599, Start Num: 29

Candidate Starts for Pucara_26:

(1, 19760), (2, 19802), (3, 19805), (Start: 29 @20288 has 38 MA's), (48, 20372), (49, 20378), (65, 20438), (69, 20456), (82, 20510), (85, 20528), (92, 20564),

Gene: Quenya_24 Start: 19845, Stop: 20162, Start Num: 22

Candidate Starts for Quenya_24:

(Start: 22 @19845 has 17 MA's), (44, 19932), (56, 19974), (59, 19986), (70, 20037), (84, 20097),

Gene: QuinnAvery_25 Start: 19733, Stop: 20041, Start Num: 29

Candidate Starts for QuinnAvery_25:

(Start: 29 @19733 has 38 MA's), (45, 19808), (51, 19829), (55, 19841), (67, 19889), (74, 19922), (84, 19967), (93, 20009),

Gene: RadFad_28 Start: 20421, Stop: 20726, Start Num: 29

Candidate Starts for RadFad_28:

(Start: 29 @20421 has 38 MA's), (40, 20472), (60, 20538), (65, 20562), (69, 20580), (74, 20601), (76, 20607), (79, 20619),

Gene: Raphaella_28 Start: 20360, Stop: 20668, Start Num: 29

Candidate Starts for Raphaella_28:

(Start: 29 @20360 has 38 MA's), (51, 20456), (52, 20459), (55, 20468), (84, 20594), (86, 20609), (87, 20621),

Gene: RedFox_23 Start: 17622, Stop: 17945, Start Num: 29

Candidate Starts for RedFox_23:

(Start: 29 @17622 has 38 MA's), (36, 17661), (43, 17694), (52, 17727), (66, 17781), (84, 17862),

Gene: Renna12_24 Start: 17975, Stop: 18319, Start Num: 29

Candidate Starts for Renna12_24:

(Start: 29 @17975 has 38 MA's), (36, 18014), (43, 18047), (52, 18080), (66, 18134), (82, 18203), (84, 18215),

Gene: Richie_28 Start: 20436, Stop: 20741, Start Num: 29

Candidate Starts for Richie_28:

(Start: 29 @20436 has 38 MA's), (40, 20487), (60, 20553), (65, 20577), (69, 20595), (74, 20616), (76, 20622), (79, 20634),

Gene: Rollins_22 Start: 17162, Stop: 17488, Start Num: 22

Candidate Starts for Rollins_22:

(Start: 22 @17162 has 17 MA's), (67, 17345), (68, 17351), (84, 17423),

Gene: RootBeer_23 Start: 17990, Stop: 18268, Start Num: 35

Candidate Starts for RootBeer_23:

(6, 17732), (32, 17975), (Start: 35 @17990 has 2 MA's), (84, 18188), (91, 18227),

Gene: Ruchi_24 Start: 19293, Stop: 19598, Start Num: 33

Candidate Starts for Ruchi_24:

(Start: 29 @19266 has 38 MA's), (Start: 33 @19293 has 1 MA's), (43, 19341), (45, 19350), (52, 19374), (67, 19431), (69, 19443), (82, 19497), (84, 19509),

Gene: Sakai_28 Start: 20369, Stop: 20677, Start Num: 29

Candidate Starts for Sakai_28:

(Start: 29 @20369 has 38 MA's), (51, 20465), (52, 20468), (55, 20477), (84, 20603), (86, 20618), (87, 20630),

Gene: Sashimi_26 Start: 18795, Stop: 19100, Start Num: 29

Candidate Starts for Sashimi_26:

(20, 18762), (Start: 29 @18795 has 38 MA's), (40, 18846), (53, 18888), (68, 18948), (69, 18954), (75, 18978), (76, 18981), (79, 18993), (82, 19008), (83, 19017),

Gene: Shade_29 Start: 25212, Stop: 25580, Start Num: 18

Candidate Starts for Shade_29:

(Start: 18 @25212 has 17 MA's), (44, 25317), (45, 25323), (56, 25359), (58, 25368), (61, 25380), (69, 25416), (80, 25458), (84, 25482), (85, 25488), (91, 25521),

Gene: SilentRX_40 Start: 35414, Stop: 35743, Start Num: 19

Candidate Starts for SilentRX_40:

(11, 35366), (Start: 19 @35414 has 2 MA's), (40, 35498), (50, 35525), (58, 35552), (84, 35666), (86, 35681),

Gene: Skylord_22 Start: 17110, Stop: 17436, Start Num: 22

Candidate Starts for Skylord_22:

(Start: 22 @17110 has 17 MA's), (67, 17293), (68, 17299), (84, 17371),

Gene: Sonny_29 Start: 25242, Stop: 25610, Start Num: 18

Candidate Starts for Sonny_29:

(Start: 18 @25242 has 17 MA's), (44, 25347), (45, 25353), (56, 25389), (58, 25398), (61, 25410), (66, 25431), (69, 25446), (80, 25488), (84, 25512), (85, 25518), (91, 25551),

Gene: SpicyFrank_28 Start: 20656, Stop: 20961, Start Num: 29

Candidate Starts for SpicyFrank_28:

(Start: 29 @20656 has 38 MA's), (40, 20707), (65, 20797), (74, 20836), (79, 20854), (84, 20881),

Gene: StevieBAY_29 Start: 25315, Stop: 25686, Start Num: 17

Candidate Starts for StevieBAY_29:

(Start: 17 @25315 has 4 MA's), (Start: 18 @25318 has 17 MA's), (44, 25423), (56, 25465), (58, 25474), (61, 25486), (66, 25507), (69, 25522), (84, 25588), (91, 25627),

Gene: TaeYoung_29 Start: 25246, Stop: 25614, Start Num: 18

Candidate Starts for TaeYoung_29:

(Start: 18 @25246 has 17 MA's), (37, 25318), (41, 25339), (44, 25351), (45, 25357), (56, 25393), (58, 25402), (61, 25414), (66, 25435), (67, 25438), (69, 25450), (84, 25516), (91, 25555),

Gene: TaylorSipht_24 Start: 18002, Stop: 18337, Start Num: 29

Candidate Starts for TaylorSipht_24:

(Start: 29 @18002 has 38 MA's), (34, 18032), (43, 18077), (52, 18110), (58, 18131), (66, 18164), (67, 18167), (69, 18179), (77, 18209), (82, 18233), (84, 18245),

Gene: ThayneTheZag_28 Start: 20519, Stop: 20830, Start Num: 29

Candidate Starts for ThayneTheZag_28:

(Start: 29 @20519 has 38 MA's), (40, 20576), (65, 20669), (69, 20687), (83, 20750), (86, 20768),

Gene: Timinator_29 Start: 25315, Stop: 25686, Start Num: 17

Candidate Starts for Timinator_29:

(Start: 17 @25315 has 4 MA's), (Start: 18 @25318 has 17 MA's), (21, 25339), (44, 25423), (56, 25465), (58, 25474), (61, 25486), (66, 25507), (69, 25522), (84, 25588), (91, 25627),

Gene: Vitas_22 Start: 17102, Stop: 17428, Start Num: 22

Candidate Starts for Vitas_22:

(Start: 22 @17102 has 17 MA's), (67, 17285), (68, 17291), (84, 17363),

Gene: Vulpecula_24 Start: 18724, Stop: 19056, Start Num: 29

Candidate Starts for Vulpecula_24:

(Start: 29 @18724 has 38 MA's), (43, 18799), (45, 18808), (67, 18889), (69, 18901), (73, 18916), (82, 18955), (84, 18967),

Gene: Wyborn_30 Start: 25584, Stop: 25931, Start Num: 24

Candidate Starts for Wyborn_30:

(14, 25542), (Start: 24 @25584 has 1 MA's), (40, 25656), (43, 25668), (44, 25671), (54, 25707), (56, 25713), (59, 25725), (67, 25758), (70, 25776), (84, 25836), (85, 25842),

Gene: YoungHarleezy_28 Start: 20434, Stop: 20739, Start Num: 29

Candidate Starts for YoungHarleezy_28:

(Start: 29 @20434 has 38 MA's), (40, 20485), (60, 20551), (65, 20575), (69, 20593), (74, 20614), (76, 20620), (79, 20632),

Gene: Zartrosa_29 Start: 25236, Stop: 25604, Start Num: 18

Candidate Starts for Zartrosa_29:

(Start: 18 @25236 has 17 MA's), (44, 25341), (45, 25347), (56, 25383), (58, 25392), (61, 25404), (66, 25425), (69, 25440), (80, 25482), (84, 25506), (85, 25512), (91, 25545),