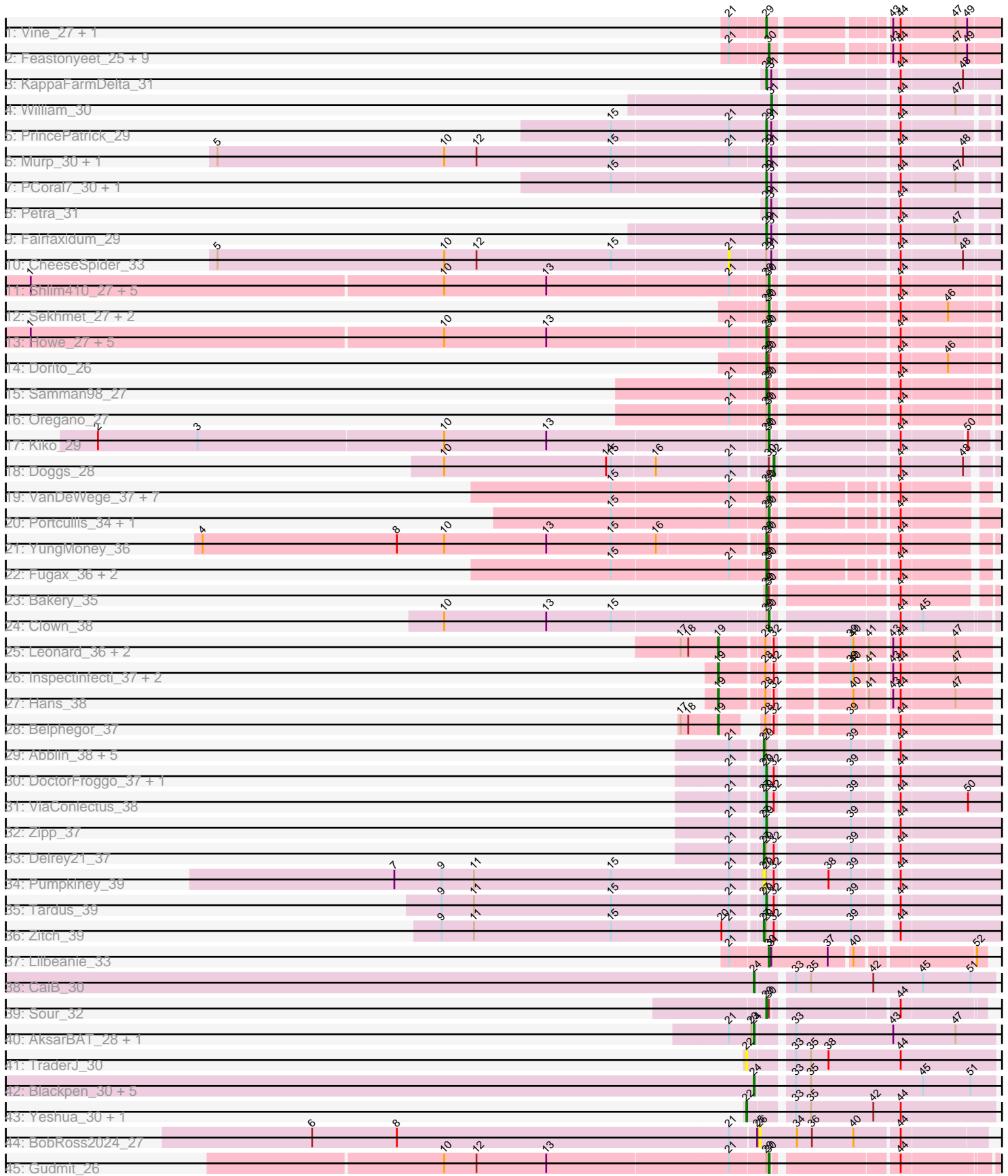


Pham 294604



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 294604 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294604 has 96 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Vine_27, Yucky_26
- Track 2 : Feastonyeet_25, Balloona_25, CocoaPuff_25, SheckWes_26, McDazzle_25, PotPie_26, ElJefes_25, Bavailard_26, SummitAcademy_26, BigChungus_25
- Track 3 : KappaFarmDelta_31
- Track 4 : William_30
- Track 5 : PrincePatrick_29
- Track 6 : Murp_30, Wocket_31
- Track 7 : PCoral7_30, Toast_30
- Track 8 : Petra_31
- Track 9 : Fairfaxidum_29
- Track 10 : CheeseSpider_33
- Track 11 : Shlim410_27, Easley_27, Adora_27, Dolores_27, MichaelScott_27, Mcklovin_27
- Track 12 : Sekhmet_27, Annalisa_27, PhriskyACE_26
- Track 13 : Howe_27, Hortense_27, Twinkle_27, DobbysSock_26, WinkNick_27, Clark_27
- Track 14 : Dorito_26
- Track 15 : Samman98_27
- Track 16 : Oregano_27
- Track 17 : Kiko_29
- Track 18 : Doggs_28
- Track 19 : VanDeWege_37, ClamChowder_36, Egi03_34, PinkCoffee_36, Barb_36, CoveyB_36, Twister6_36, Arri_37
- Track 20 : Portcullis_34, Shinji_34
- Track 21 : YungMoney_36
- Track 22 : Fugax_36, RogerDodger_37, Danyall_36
- Track 23 : Bakery_35
- Track 24 : Clown_38
- Track 25 : Leonard_36, Phinally_36, Ali17_34
- Track 26 : Inspectinfecti_37, Phauci_29, MelBins_37
- Track 27 : Hans_38
- Track 28 : Belphegor_37
- Track 29 : Abblin_38, Scioto_38, Sampson_38, Natkenzie_38, BigHunkinEater_40, APunk_39
- Track 30 : DoctorFroggo_37, Verity_37
- Track 31 : ViaConlectus_38

- Track 32 : Zipp_37
- Track 33 : Delrey21_37
- Track 34 : Pumpkiney_39
- Track 35 : Tardus_39
- Track 36 : Zitch_39
- Track 37 : Lilbeanie_33
- Track 38 : CaiB_30
- Track 39 : Sour_32
- Track 40 : AksarBAT_28, NHagos_28
- Track 41 : TraderJ_30
- Track 42 : Blackpen_30, CloverMinnie_30, MossRose_30, AnarQue_30, FelixTres_30, MakoManhole_30
- Track 43 : Yeshua_30, Wooper_30
- Track 44 : BobRoss2024_27
- Track 45 : Gudmit_26

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 29 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bakery_35, Clark_27, Danyall_36, DobbysSock_26, DoctorFroggo_37, Dorito_26, Fairfaxidum_29, Fugax_36, Hortense_27, Howe_27, KappaFarmDelta_31, Murp_30, PCoral7_30, Petra_31, PrincePatrick_29, RogerDodger_37, Samman98_27, Sour_32, Tardus_39, Toast_30, Twinkle_27, Verity_37, ViaConlectus_38, Vine_27, WinkNick_27, Wocket_31, Yucky_26, YungMoney_36, Zipp_37,

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

- APunk_39, Abblin_38, Adora_27, Annalisa_27, Arri_37, Barb_36, BigHunkinEater_40, CheeseSpider_33, ClamChowder_36, Clown_38, CoveyB_36, Delrey21_37, Dolores_27, Easley_27, Egi03_34, Gudmit_26, Kiko_29, Mcklovin_27, MichaelScott_27, Natkenzie_38, Oregano_27, PhriskyACE_26, PinkCoffee_36, Portcullis_34, Pumpkiney_39, Sampson_38, Scioto_38, Sekhmet_27, Shinji_34, Shlim410_27, Twister6_36, VanDeWege_37, Zitch_39,

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

- AksarBAT_28, Ali17_34, AnarQue_30, Balloona_25, Bavidard_26, Belphegor_37, BigChungus_25, Blackpen_30, BobRoss2024_27, CaiB_30, CloverMinnie_30, CocoaPuff_25, Doggs_28, ElJefes_25, Feastonyeet_25, FelixTres_30, Hans_38, Inspectinfecti_37, Leonard_36, Lilbeanie_33, MakoManhole_30, McDazzle_25, MelBins_37, MossRose_30, NHagos_28, Phauci_29, Phinally_36, PotPie_26, SheckWes_26, SummitAcademy_26, TraderJ_30, William_30, Wooper_30, Yeshua_30,

Summary by start number:

Start 19:

- Found in 8 of 96 (8.3%) of genes in pham
- Manual Annotations of this start: 8 of 78

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ali17_34 (DE2), Belphegor_37 (DE2), Hans_38 (DE2), Inspectinfecti_37 (DE2), Leonard_36 (DE2), MelBins_37 (DE2), Phauci_29 (DE2), Phinally_36 (DE2),

Start 21:

- Found in 63 of 96 (65.6%) of genes in pham
- No Manual Annotations of this start.
- Called 1.6% of time when present
- Phage (with cluster) where this start called: CheeseSpider_33 (CV),

Start 22:

- Found in 3 of 96 (3.1%) of genes in pham
- Manual Annotations of this start: 2 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TraderJ_30 (DR), Wooper_30 (DR), Yeshua_30 (DR),

Start 24:

- Found in 9 of 96 (9.4%) of genes in pham
- Manual Annotations of this start: 6 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_28 (DR), AnarQue_30 (DR), Blackpen_30 (DR), CaiB_30 (DR), CloverMinnie_30 (DR), FelixTres_30 (DR), MakoManhole_30 (DR), MossRose_30 (DR), NHagos_28 (DR),

Start 26:

- Found in 1 of 96 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobRoss2024_27 (DR),

Start 27:

- Found in 14 of 96 (14.6%) of genes in pham
- Manual Annotations of this start: 4 of 78
- Called 64.3% of time when present
- Phage (with cluster) where this start called: APunk_39 (DE4), Abblin_38 (DE4), BigHunkinEater_40 (DE4), Delrey21_37 (DE4), Natkenzie_38 (DE4), Pumpkiney_39 (DE4), Sampson_38 (DE4), Scioto_38 (DE4), Zitch_39 (DE4),

Start 29:

- Found in 62 of 96 (64.6%) of genes in pham
- Manual Annotations of this start: 29 of 78
- Called 46.8% of time when present
- Phage (with cluster) where this start called: Bakery_35 (DC1), Clark_27 (CZ4), Danyall_36 (DC1), DobbysSock_26 (CZ4), DoctorFroggo_37 (DE4), Dorito_26 (CZ4), Fairfaxidum_29 (CV), Fugax_36 (DC1), Hortense_27 (CZ4), Howe_27 (CZ4), KappaFarmDelta_31 (CV), Murp_30 (CV), PCoral7_30 (CV), Petra_31 (CV), PrincePatrick_29 (CV), RogerDodger_37 (DC1), Samman98_27 (CZ4), Sour_32 (DR), Tardus_39 (DE4), Toast_30 (CV), Twinkle_27 (CZ4), Verity_37 (DE4), ViaConlectus_38 (DE4), Vine_27 (CT), WinkNick_27 (CZ4), Wocket_31 (CV), Yucky_26 (CT), YungMoney_36 (DC1), Zipp_37 (DE4),

Start 30:

- Found in 49 of 96 (51.0%) of genes in pham
- Manual Annotations of this start: 27 of 78
- Called 69.4% of time when present
- Phage (with cluster) where this start called: Adora_27 (CZ4), Annalisa_27 (CZ4), Arri_37 (DC1), Balloona_25 (CT), Barb_36 (DC1), Bavidard_26 (CT), BigChungus_25 (CT), ClamChowder_36 (DC1), Clown_38 (DC2), CocoaPuff_25 (CT), CoveyB_36 (DC1), Dolores_27 (CZ4), Easley_27 (CZ4), Egi03_34 (DC1), ElJefes_25 (CT), Feastonyeet_25 (CT), Gudmit_26 (singleton), Kiko_29 (DB), Lilbeanie_33 (DE5), McDazzle_25 (CT), Mcklovin_27 (CZ4), MichaelScott_27 (CZ4), Oregano_27 (CZ4), PhriskyACE_26 (CZ4), PinkCoffee_36 (DC1), Portcullis_34 (DC1), PotPie_26 (CT), Sekhmet_27 (CZ4), SheckWes_26 (CT), Shinji_34 (DC1), Shlim410_27 (CZ4), SummitAcademy_26 (CT), Twister6_36 (DC1), VanDeWege_37 (DC1),

Start 31:

- Found in 11 of 96 (11.5%) of genes in pham
- Manual Annotations of this start: 1 of 78
- Called 9.1% of time when present
- Phage (with cluster) where this start called: William_30 (CV),

Start 32:

- Found in 16 of 96 (16.7%) of genes in pham
- Manual Annotations of this start: 1 of 78
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Doggs_28 (DB),

Summary by clusters:

There are 11 clusters represented in this pham: singleton, DB, DE2, DE4, DE5, CZ4, DC2, DC1, DR, CV, CT,

Info for manual annotations of cluster CT:

- Start number 29 was manually annotated 2 times for cluster CT.
- Start number 30 was manually annotated 5 times for cluster CT.

Info for manual annotations of cluster CV:

- Start number 29 was manually annotated 8 times for cluster CV.
- Start number 31 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ4:

- Start number 29 was manually annotated 8 times for cluster CZ4.
- Start number 30 was manually annotated 9 times for cluster CZ4.

Info for manual annotations of cluster DB:

- Start number 30 was manually annotated 1 time for cluster DB.
- Start number 32 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 29 was manually annotated 5 times for cluster DC1.
- Start number 30 was manually annotated 9 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 30 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE2:

- Start number 19 was manually annotated 8 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 27 was manually annotated 4 times for cluster DE4.
- Start number 29 was manually annotated 5 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 30 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DR:

- Start number 22 was manually annotated 2 times for cluster DR.
- Start number 24 was manually annotated 6 times for cluster DR.
- Start number 29 was manually annotated 1 time for cluster DR.

Gene Information:

Gene: APunk_39 Start: 33614, Stop: 33886, Start Num: 27

Candidate Starts for APunk_39:

(21, 33581), (Start: 27 @33614 has 4 MA's), (Start: 29 @33617 has 29 MA's), (39, 33704), (44, 33746),

Gene: Abblin_38 Start: 34157, Stop: 34429, Start Num: 27

Candidate Starts for Abblin_38:

(21, 34124), (Start: 27 @34157 has 4 MA's), (Start: 29 @34160 has 29 MA's), (39, 34247), (44, 34289),

Gene: Adora_27 Start: 23609, Stop: 23842, Start Num: 30

Candidate Starts for Adora_27:

(1, 22736), (10, 23228), (13, 23351), (21, 23567), (Start: 29 @23606 has 29 MA's), (Start: 30 @23609 has 27 MA's), (44, 23741),

Gene: AksarBAT_28 Start: 27698, Stop: 27973, Start Num: 24

Candidate Starts for AksarBAT_28:

(21, 27668), (23, 27695), (Start: 24 @27698 has 6 MA's), (33, 27734), (43, 27851), (47, 27926),

Gene: Ali17_34 Start: 31873, Stop: 32145, Start Num: 19

Candidate Starts for Ali17_34:

(17, 31828), (18, 31837), (Start: 19 @31873 has 8 MA's), (28, 31918), (Start: 32 @31924 has 1 MA's), (39, 31996), (40, 31999), (41, 32014), (43, 32035), (44, 32044), (47, 32107),

Gene: AnarQue_30 Start: 29184, Stop: 29459, Start Num: 24

Candidate Starts for AnarQue_30:

(Start: 24 @29184 has 6 MA's), (33, 29220), (35, 29238), (45, 29373), (51, 29430),

Gene: Annalisa_27 Start: 23074, Stop: 23307, Start Num: 30

Candidate Starts for Annalisa_27:

(Start: 29 @23071 has 29 MA's), (Start: 30 @23074 has 27 MA's), (44, 23206), (46, 23260),

Gene: Arri_37 Start: 30088, Stop: 30300, Start Num: 30

Candidate Starts for Arri_37:

(15, 29905), (21, 30043), (Start: 29 @30085 has 29 MA's), (Start: 30 @30088 has 27 MA's), (44, 30208),

Gene: Bakery_35 Start: 29374, Stop: 29604, Start Num: 29

Candidate Starts for Bakery_35:

(Start: 29 @29374 has 29 MA's), (Start: 30 @29377 has 27 MA's), (44, 29509),

Gene: Balloona_25 Start: 21266, Stop: 21505, Start Num: 30

Candidate Starts for Balloona_25:

(21, 21224), (Start: 30 @21266 has 27 MA's), (43, 21386), (44, 21395), (47, 21458), (49, 21470),

Gene: Barb_36 Start: 30106, Stop: 30318, Start Num: 30

Candidate Starts for Barb_36:

(15, 29923), (21, 30061), (Start: 29 @30103 has 29 MA's), (Start: 30 @30106 has 27 MA's), (44, 30226),

Gene: Bavilard_26 Start: 22051, Stop: 22290, Start Num: 30

Candidate Starts for Bavilard_26:

(21, 22009), (Start: 30 @22051 has 27 MA's), (43, 22171), (44, 22180), (47, 22243), (49, 22255),

Gene: Belphegor_37 Start: 34078, Stop: 34335, Start Num: 19

Candidate Starts for Belphegor_37:

(17, 34033), (18, 34042), (Start: 19 @34078 has 8 MA's), (28, 34108), (Start: 32 @34114 has 1 MA's), (39, 34186), (44, 34234),

Gene: BigChungus_25 Start: 21309, Stop: 21548, Start Num: 30

Candidate Starts for BigChungus_25:

(21, 21267), (Start: 30 @21309 has 27 MA's), (43, 21429), (44, 21438), (47, 21501), (49, 21513),

Gene: BigHunkinEater_40 Start: 33395, Stop: 33667, Start Num: 27

Candidate Starts for BigHunkinEater_40:

(21, 33362), (Start: 27 @33395 has 4 MA's), (Start: 29 @33398 has 29 MA's), (39, 33485), (44, 33527),

Gene: Blackpen_30 Start: 28602, Stop: 28877, Start Num: 24

Candidate Starts for Blackpen_30:

(Start: 24 @28602 has 6 MA's), (33, 28638), (35, 28656), (45, 28791), (51, 28848),

Gene: BobRoss2024_27 Start: 27235, Stop: 27495, Start Num: 26

Candidate Starts for BobRoss2024_27:

(6, 26701), (8, 26803), (21, 27202), (25, 27232), (26, 27235), (34, 27280), (36, 27298), (40, 27346), (44, 27397),

Gene: CaiB_30 Start: 29170, Stop: 29445, Start Num: 24

Candidate Starts for CaiB_30:

(Start: 24 @29170 has 6 MA's), (33, 29206), (35, 29224), (42, 29299), (45, 29359), (51, 29416),

Gene: CheeseSpider_33 Start: 24875, Stop: 25168, Start Num: 21

Candidate Starts for CheeseSpider_33:

(5, 24263), (10, 24536), (12, 24575), (15, 24737), (21, 24875), (Start: 29 @24917 has 29 MA's), (Start: 31 @24923 has 1 MA's), (44, 25055), (48, 25127),

Gene: ClamChowder_36 Start: 30106, Stop: 30318, Start Num: 30

Candidate Starts for ClamChowder_36:

(15, 29923), (21, 30061), (Start: 29 @30103 has 29 MA's), (Start: 30 @30106 has 27 MA's), (44, 30226),

Gene: Clark_27 Start: 23068, Stop: 23304, Start Num: 29

Candidate Starts for Clark_27:

(1, 22198), (10, 22690), (13, 22813), (21, 23029), (Start: 29 @23068 has 29 MA's), (Start: 30 @23071 has 27 MA's), (44, 23203),

Gene: CloverMinnie_30 Start: 29110, Stop: 29385, Start Num: 24

Candidate Starts for CloverMinnie_30:

(Start: 24 @29110 has 6 MA's), (33, 29146), (35, 29164), (45, 29299), (51, 29356),

Gene: Clown_38 Start: 32189, Stop: 32422, Start Num: 30

Candidate Starts for Clown_38:

(10, 31808), (13, 31931), (15, 32009), (Start: 29 @32186 has 29 MA's), (Start: 30 @32189 has 27 MA's), (44, 32321), (45, 32345),

Gene: CocoaPuff_25 Start: 21263, Stop: 21502, Start Num: 30

Candidate Starts for CocoaPuff_25:

(21, 21221), (Start: 30 @21263 has 27 MA's), (43, 21383), (44, 21392), (47, 21455), (49, 21467),

Gene: CoveyB_36 Start: 29906, Stop: 30118, Start Num: 30

Candidate Starts for CoveyB_36:

(15, 29723), (21, 29861), (Start: 29 @29903 has 29 MA's), (Start: 30 @29906 has 27 MA's), (44, 30026),

Gene: Danyall_36 Start: 29903, Stop: 30127, Start Num: 29

Candidate Starts for Danyall_36:

(15, 29723), (21, 29861), (Start: 29 @29903 has 29 MA's), (Start: 30 @29906 has 27 MA's), (44, 30026),

Gene: Delrey21_37 Start: 34344, Stop: 34616, Start Num: 27

Candidate Starts for Delrey21_37:

(21, 34311), (Start: 27 @34344 has 4 MA's), (Start: 29 @34347 has 29 MA's), (Start: 32 @34356 has 1 MA's), (39, 34434), (44, 34476),

Gene: DobbysSock_26 Start: 22542, Stop: 22778, Start Num: 29

Candidate Starts for DobbysSock_26:

(1, 21672), (10, 22164), (13, 22287), (21, 22503), (Start: 29 @22542 has 29 MA's), (Start: 30 @22545 has 27 MA's), (44, 22677),

Gene: DoctorFroggo_37 Start: 34347, Stop: 34616, Start Num: 29

Candidate Starts for DoctorFroggo_37:

(21, 34311), (Start: 27 @34344 has 4 MA's), (Start: 29 @34347 has 29 MA's), (Start: 32 @34356 has 1 MA's), (39, 34434), (44, 34476),

Gene: Doggs_28 Start: 24247, Stop: 24471, Start Num: 32

Candidate Starts for Doggs_28:

(10, 23866), (14, 24061), (15, 24067), (16, 24118), (21, 24205), (Start: 30 @24244 has 27 MA's), (Start: 32 @24247 has 1 MA's), (44, 24376), (48, 24448),

Gene: Dolores_27 Start: 23047, Stop: 23280, Start Num: 30

Candidate Starts for Dolores_27:

(1, 22174), (10, 22666), (13, 22789), (21, 23005), (Start: 29 @23044 has 29 MA's), (Start: 30 @23047 has 27 MA's), (44, 23179),

Gene: Dorito_26 Start: 22510, Stop: 22746, Start Num: 29

Candidate Starts for Dorito_26:

(Start: 29 @22510 has 29 MA's), (Start: 30 @22513 has 27 MA's), (44, 22645), (46, 22699),

Gene: Easley_27 Start: 23057, Stop: 23290, Start Num: 30

Candidate Starts for Easley_27:

(1, 22184), (10, 22676), (13, 22799), (21, 23015), (Start: 29 @23054 has 29 MA's), (Start: 30 @23057 has 27 MA's), (44, 23189),

Gene: Egi03_34 Start: 29584, Stop: 29805, Start Num: 30

Candidate Starts for Egi03_34:

(15, 29401), (21, 29539), (Start: 29 @29581 has 29 MA's), (Start: 30 @29584 has 27 MA's), (44, 29704),

Gene: ElJefes_25 Start: 21742, Stop: 21981, Start Num: 30

Candidate Starts for ElJefes_25:

(21, 21700), (Start: 30 @21742 has 27 MA's), (43, 21862), (44, 21871), (47, 21934), (49, 21946),

Gene: Fairfaxidum_29 Start: 24675, Stop: 24917, Start Num: 29

Candidate Starts for Fairfaxidum_29:

(Start: 29 @24675 has 29 MA's), (Start: 31 @24681 has 1 MA's), (44, 24813), (47, 24876),

Gene: Feastonyeet_25 Start: 21309, Stop: 21548, Start Num: 30

Candidate Starts for Feastonyeet_25:

(21, 21267), (Start: 30 @21309 has 27 MA's), (43, 21429), (44, 21438), (47, 21501), (49, 21513),

Gene: FelixTres_30 Start: 29173, Stop: 29448, Start Num: 24

Candidate Starts for FelixTres_30:

(Start: 24 @29173 has 6 MA's), (33, 29209), (35, 29227), (45, 29362), (51, 29419),

Gene: Fugax_36 Start: 30103, Stop: 30318, Start Num: 29

Candidate Starts for Fugax_36:

(15, 29923), (21, 30061), (Start: 29 @30103 has 29 MA's), (Start: 30 @30106 has 27 MA's), (44, 30226),

Gene: Gudmit_26 Start: 21364, Stop: 21597, Start Num: 30

Candidate Starts for Gudmit_26:

(10, 20980), (12, 21019), (13, 21103), (21, 21319), (Start: 29 @21361 has 29 MA's), (Start: 30 @21364 has 27 MA's), (44, 21496),

Gene: Hans_38 Start: 32513, Stop: 32785, Start Num: 19

Candidate Starts for Hans_38:

(Start: 19 @32513 has 8 MA's), (28, 32558), (Start: 32 @32564 has 1 MA's), (40, 32639), (41, 32654), (43, 32675), (44, 32684), (47, 32747),

Gene: Hortense_27 Start: 23653, Stop: 23889, Start Num: 29

Candidate Starts for Hortense_27:

(1, 22783), (10, 23275), (13, 23398), (21, 23614), (Start: 29 @23653 has 29 MA's), (Start: 30 @23656 has 27 MA's), (44, 23788),

Gene: Howe_27 Start: 23653, Stop: 23889, Start Num: 29

Candidate Starts for Howe_27:

(1, 22783), (10, 23275), (13, 23398), (21, 23614), (Start: 29 @23653 has 29 MA's), (Start: 30 @23656 has 27 MA's), (44, 23788),

Gene: Inspectinfecti_37 Start: 32959, Stop: 33231, Start Num: 19

Candidate Starts for Inspectinfecti_37:

(Start: 19 @32959 has 8 MA's), (28, 33004), (Start: 32 @33010 has 1 MA's), (39, 33082), (40, 33085), (41, 33100), (43, 33121), (44, 33130), (47, 33193),

Gene: KappaFarmDelta_31 Start: 24842, Stop: 25093, Start Num: 29

Candidate Starts for KappaFarmDelta_31:

(Start: 29 @24842 has 29 MA's), (Start: 31 @24848 has 1 MA's), (44, 24980), (48, 25052),

Gene: Kiko_29 Start: 23412, Stop: 23639, Start Num: 30

Candidate Starts for Kiko_29:

(2, 22617), (3, 22737), (10, 23031), (13, 23154), (Start: 29 @23409 has 29 MA's), (Start: 30 @23412 has 27 MA's), (44, 23544), (50, 23616),

Gene: Leonard_36 Start: 32595, Stop: 32867, Start Num: 19

Candidate Starts for Leonard_36:

(17, 32550), (18, 32559), (Start: 19 @32595 has 8 MA's), (28, 32640), (Start: 32 @32646 has 1 MA's), (39, 32718), (40, 32721), (41, 32736), (43, 32757), (44, 32766), (47, 32829),

Gene: Lilbeanie_33 Start: 27755, Stop: 27985, Start Num: 30

Candidate Starts for Lilbeanie_33:

(21, 27710), (Start: 30 @27755 has 27 MA's), (Start: 31 @27758 has 1 MA's), (37, 27824), (40, 27848), (52, 27974),

Gene: MakoManhole_30 Start: 29188, Stop: 29463, Start Num: 24

Candidate Starts for MakoManhole_30:

(Start: 24 @29188 has 6 MA's), (33, 29224), (35, 29242), (45, 29377), (51, 29434),

Gene: McDazzle_25 Start: 21736, Stop: 21975, Start Num: 30

Candidate Starts for McDazzle_25:

(21, 21694), (Start: 30 @21736 has 27 MA's), (43, 21856), (44, 21865), (47, 21928), (49, 21940),

Gene: Mcklovin_27 Start: 25825, Stop: 26058, Start Num: 30

Candidate Starts for Mcklovin_27:

(1, 24952), (10, 25444), (13, 25567), (21, 25783), (Start: 29 @25822 has 29 MA's), (Start: 30 @25825 has 27 MA's), (44, 25957),

Gene: MelBins_37 Start: 32744, Stop: 33016, Start Num: 19

Candidate Starts for MelBins_37:

(Start: 19 @32744 has 8 MA's), (28, 32789), (Start: 32 @32795 has 1 MA's), (39, 32867), (40, 32870), (41, 32885), (43, 32906), (44, 32915), (47, 32978),

Gene: MichaelScott_27 Start: 23428, Stop: 23661, Start Num: 30

Candidate Starts for MichaelScott_27:

(1, 22555), (10, 23047), (13, 23170), (21, 23386), (Start: 29 @23425 has 29 MA's), (Start: 30 @23428 has 27 MA's), (44, 23560),

Gene: MossRose_30 Start: 29167, Stop: 29442, Start Num: 24

Candidate Starts for MossRose_30:

(Start: 24 @29167 has 6 MA's), (33, 29203), (35, 29221), (45, 29356), (51, 29413),

Gene: Murp_30 Start: 24619, Stop: 24870, Start Num: 29

Candidate Starts for Murp_30:

(5, 23965), (10, 24238), (12, 24277), (15, 24439), (21, 24577), (Start: 29 @24619 has 29 MA's), (Start: 31 @24625 has 1 MA's), (44, 24757), (48, 24829),

Gene: NHagos_28 Start: 27701, Stop: 27976, Start Num: 24

Candidate Starts for NHagos_28:

(21, 27671), (23, 27698), (Start: 24 @27701 has 6 MA's), (33, 27737), (43, 27854), (47, 27929),

Gene: Natkenzie_38 Start: 34157, Stop: 34429, Start Num: 27

Candidate Starts for Natkenzie_38:

(21, 34124), (Start: 27 @34157 has 4 MA's), (Start: 29 @34160 has 29 MA's), (39, 34247), (44, 34289),

Gene: Oregano_27 Start: 23096, Stop: 23329, Start Num: 30

Candidate Starts for Oregano_27:

(21, 23054), (Start: 29 @23093 has 29 MA's), (Start: 30 @23096 has 27 MA's), (44, 23228),

Gene: PCoral7_30 Start: 24592, Stop: 24834, Start Num: 29

Candidate Starts for PCoral7_30:

(15, 24409), (Start: 29 @24592 has 29 MA's), (Start: 31 @24598 has 1 MA's), (44, 24730), (47, 24793),

Gene: Petra_31 Start: 24348, Stop: 24596, Start Num: 29

Candidate Starts for Petra_31:

(Start: 29 @24348 has 29 MA's), (Start: 31 @24354 has 1 MA's), (44, 24486),

Gene: Phauci_29 Start: 29184, Stop: 29456, Start Num: 19

Candidate Starts for Phauci_29:

(Start: 19 @29184 has 8 MA's), (28, 29229), (Start: 32 @29235 has 1 MA's), (39, 29307), (40, 29310), (41, 29325), (43, 29346), (44, 29355), (47, 29418),

Gene: Phinally_36 Start: 32592, Stop: 32864, Start Num: 19

Candidate Starts for Phinally_36:

(17, 32547), (18, 32556), (Start: 19 @32592 has 8 MA's), (28, 32637), (Start: 32 @32643 has 1 MA's), (39, 32715), (40, 32718), (41, 32733), (43, 32754), (44, 32763), (47, 32826),

Gene: PhriskyACE_26 Start: 22513, Stop: 22746, Start Num: 30

Candidate Starts for PhriskyACE_26:

(Start: 29 @22510 has 29 MA's), (Start: 30 @22513 has 27 MA's), (44, 22645), (46, 22699),

Gene: PinkCoffee_36 Start: 30115, Stop: 30327, Start Num: 30

Candidate Starts for PinkCoffee_36:

(15, 29932), (21, 30070), (Start: 29 @30112 has 29 MA's), (Start: 30 @30115 has 27 MA's), (44, 30235),

Gene: Portcullis_34 Start: 29425, Stop: 29646, Start Num: 30

Candidate Starts for Portcullis_34:

(15, 29242), (21, 29380), (Start: 29 @29422 has 29 MA's), (Start: 30 @29425 has 27 MA's), (44, 29545),

Gene: PotPie_26 Start: 22128, Stop: 22367, Start Num: 30

Candidate Starts for PotPie_26:

(21, 22086), (Start: 30 @22128 has 27 MA's), (43, 22248), (44, 22257), (47, 22320), (49, 22332),

Gene: PrincePatrick_29 Start: 24671, Stop: 24913, Start Num: 29

Candidate Starts for PrincePatrick_29:

(15, 24488), (21, 24626), (Start: 29 @24671 has 29 MA's), (Start: 31 @24677 has 1 MA's), (44, 24809),

Gene: Pumpkiney_39 Start: 31480, Stop: 31752, Start Num: 27

Candidate Starts for Pumpkiney_39:

(7, 31045), (9, 31102), (11, 31141), (15, 31306), (21, 31447), (Start: 27 @31480 has 4 MA's), (Start: 29 @31483 has 29 MA's), (Start: 32 @31492 has 1 MA's), (38, 31543), (39, 31570), (44, 31612),

Gene: RogerDodger_37 Start: 30251, Stop: 30475, Start Num: 29

Candidate Starts for RogerDodger_37:

(15, 30071), (21, 30209), (Start: 29 @30251 has 29 MA's), (Start: 30 @30254 has 27 MA's), (44, 30374),

Gene: Samman98_27 Start: 23062, Stop: 23298, Start Num: 29

Candidate Starts for Samman98_27:

(21, 23023), (Start: 29 @23062 has 29 MA's), (Start: 30 @23065 has 27 MA's), (44, 23197),

Gene: Sampson_38 Start: 34102, Stop: 34374, Start Num: 27

Candidate Starts for Sampson_38:

(21, 34069), (Start: 27 @34102 has 4 MA's), (Start: 29 @34105 has 29 MA's), (39, 34192), (44, 34234),

Gene: Scioto_38 Start: 34157, Stop: 34429, Start Num: 27

Candidate Starts for Scioto_38:

(21, 34124), (Start: 27 @34157 has 4 MA's), (Start: 29 @34160 has 29 MA's), (39, 34247), (44, 34289),

Gene: Sekhmet_27 Start: 23425, Stop: 23658, Start Num: 30

Candidate Starts for Sekhmet_27:

(Start: 29 @23422 has 29 MA's), (Start: 30 @23425 has 27 MA's), (44, 23557), (46, 23611),

Gene: SheckWes_26 Start: 21272, Stop: 21511, Start Num: 30

Candidate Starts for SheckWes_26:

(21, 21230), (Start: 30 @21272 has 27 MA's), (43, 21392), (44, 21401), (47, 21464), (49, 21476),

Gene: Shinji_34 Start: 29366, Stop: 29587, Start Num: 30

Candidate Starts for Shinji_34:

(15, 29183), (21, 29321), (Start: 29 @29363 has 29 MA's), (Start: 30 @29366 has 27 MA's), (44, 29486),

Gene: Shlim410_27 Start: 23656, Stop: 23889, Start Num: 30

Candidate Starts for Shlim410_27:

(1, 22783), (10, 23275), (13, 23398), (21, 23614), (Start: 29 @23653 has 29 MA's), (Start: 30 @23656 has 27 MA's), (44, 23788),

Gene: Sour_32 Start: 31434, Stop: 31661, Start Num: 29

Candidate Starts for Sour_32:

(Start: 29 @31434 has 29 MA's), (Start: 30 @31437 has 27 MA's), (44, 31569),

Gene: SummitAcademy_26 Start: 21348, Stop: 21587, Start Num: 30

Candidate Starts for SummitAcademy_26:

(21, 21306), (Start: 30 @21348 has 27 MA's), (43, 21468), (44, 21477), (47, 21540), (49, 21552),

Gene: Tardus_39 Start: 33524, Stop: 33793, Start Num: 29

Candidate Starts for Tardus_39:

(9, 33143), (11, 33182), (15, 33347), (21, 33488), (Start: 27 @33521 has 4 MA's), (Start: 29 @33524 has 29 MA's), (Start: 32 @33533 has 1 MA's), (39, 33611), (44, 33653),

Gene: Toast_30 Start: 24592, Stop: 24834, Start Num: 29

Candidate Starts for Toast_30:

(15, 24409), (Start: 29 @24592 has 29 MA's), (Start: 31 @24598 has 1 MA's), (44, 24730), (47, 24793),

Gene: TraderJ_30 Start: 29161, Stop: 29445, Start Num: 22

Candidate Starts for TraderJ_30:

(Start: 22 @29161 has 2 MA's), (33, 29206), (35, 29224), (38, 29245), (44, 29332),

Gene: Twinkle_27 Start: 24712, Stop: 24948, Start Num: 29

Candidate Starts for Twinkle_27:

(1, 23842), (10, 24334), (13, 24457), (21, 24673), (Start: 29 @24712 has 29 MA's), (Start: 30 @24715 has 27 MA's), (44, 24847),

Gene: Twister6_36 Start: 29817, Stop: 30038, Start Num: 30

Candidate Starts for Twister6_36:

(15, 29634), (21, 29772), (Start: 29 @29814 has 29 MA's), (Start: 30 @29817 has 27 MA's), (44, 29937),

Gene: VanDeWege_37 Start: 30153, Stop: 30365, Start Num: 30

Candidate Starts for VanDeWege_37:

(15, 29970), (21, 30108), (Start: 29 @30150 has 29 MA's), (Start: 30 @30153 has 27 MA's), (44, 30273),

Gene: Verity_37 Start: 34347, Stop: 34616, Start Num: 29

Candidate Starts for Verity_37:

(21, 34311), (Start: 27 @34344 has 4 MA's), (Start: 29 @34347 has 29 MA's), (Start: 32 @34356 has 1 MA's), (39, 34434), (44, 34476),

Gene: ViaConlectus_38 Start: 32796, Stop: 33065, Start Num: 29

Candidate Starts for ViaConlectus_38:

(21, 32760), (Start: 27 @32793 has 4 MA's), (Start: 29 @32796 has 29 MA's), (Start: 32 @32805 has 1 MA's), (39, 32883), (44, 32925), (50, 33003),

Gene: Vine_27 Start: 22269, Stop: 22508, Start Num: 29

Candidate Starts for Vine_27:

(21, 22230), (Start: 29 @22269 has 29 MA's), (43, 22389), (44, 22398), (47, 22461), (49, 22473),

Gene: William_30 Start: 24424, Stop: 24660, Start Num: 31

Candidate Starts for William_30:

(Start: 31 @24424 has 1 MA's), (44, 24556), (47, 24619),

Gene: WinkNick_27 Start: 23044, Stop: 23280, Start Num: 29

Candidate Starts for WinkNick_27:

(1, 22174), (10, 22666), (13, 22789), (21, 23005), (Start: 29 @23044 has 29 MA's), (Start: 30 @23047 has 27 MA's), (44, 23179),

Gene: Wocket_31 Start: 25037, Stop: 25282, Start Num: 29
Candidate Starts for Wocket_31:
(5, 24383), (10, 24656), (12, 24695), (15, 24857), (21, 24995), (Start: 29 @25037 has 29 MA's), (Start: 31 @25043 has 1 MA's), (44, 25175), (48, 25247),

Gene: Wooper_30 Start: 29167, Stop: 29451, Start Num: 22
Candidate Starts for Wooper_30:
(Start: 22 @29167 has 2 MA's), (33, 29212), (35, 29230), (42, 29305), (44, 29338),

Gene: Yeshua_30 Start: 29144, Stop: 29428, Start Num: 22
Candidate Starts for Yeshua_30:
(Start: 22 @29144 has 2 MA's), (33, 29189), (35, 29207), (42, 29282), (44, 29315),

Gene: Yucky_26 Start: 22128, Stop: 22367, Start Num: 29
Candidate Starts for Yucky_26:
(21, 22089), (Start: 29 @22128 has 29 MA's), (43, 22248), (44, 22257), (47, 22320), (49, 22332),

Gene: YungMoney_36 Start: 30947, Stop: 31177, Start Num: 29
Candidate Starts for YungMoney_36:
(4, 30281), (8, 30515), (10, 30572), (13, 30695), (15, 30773), (16, 30827), (Start: 29 @30947 has 29 MA's), (Start: 30 @30950 has 27 MA's), (44, 31082),

Gene: Zipp_37 Start: 34250, Stop: 34519, Start Num: 29
Candidate Starts for Zipp_37:
(21, 34214), (Start: 27 @34247 has 4 MA's), (Start: 29 @34250 has 29 MA's), (39, 34337), (44, 34379),

Gene: Zitch_39 Start: 32050, Stop: 32322, Start Num: 27
Candidate Starts for Zitch_39:
(9, 31672), (11, 31711), (15, 31876), (20, 32008), (21, 32017), (Start: 27 @32050 has 4 MA's), (Start: 29 @32053 has 29 MA's), (Start: 32 @32062 has 1 MA's), (39, 32140), (44, 32182),