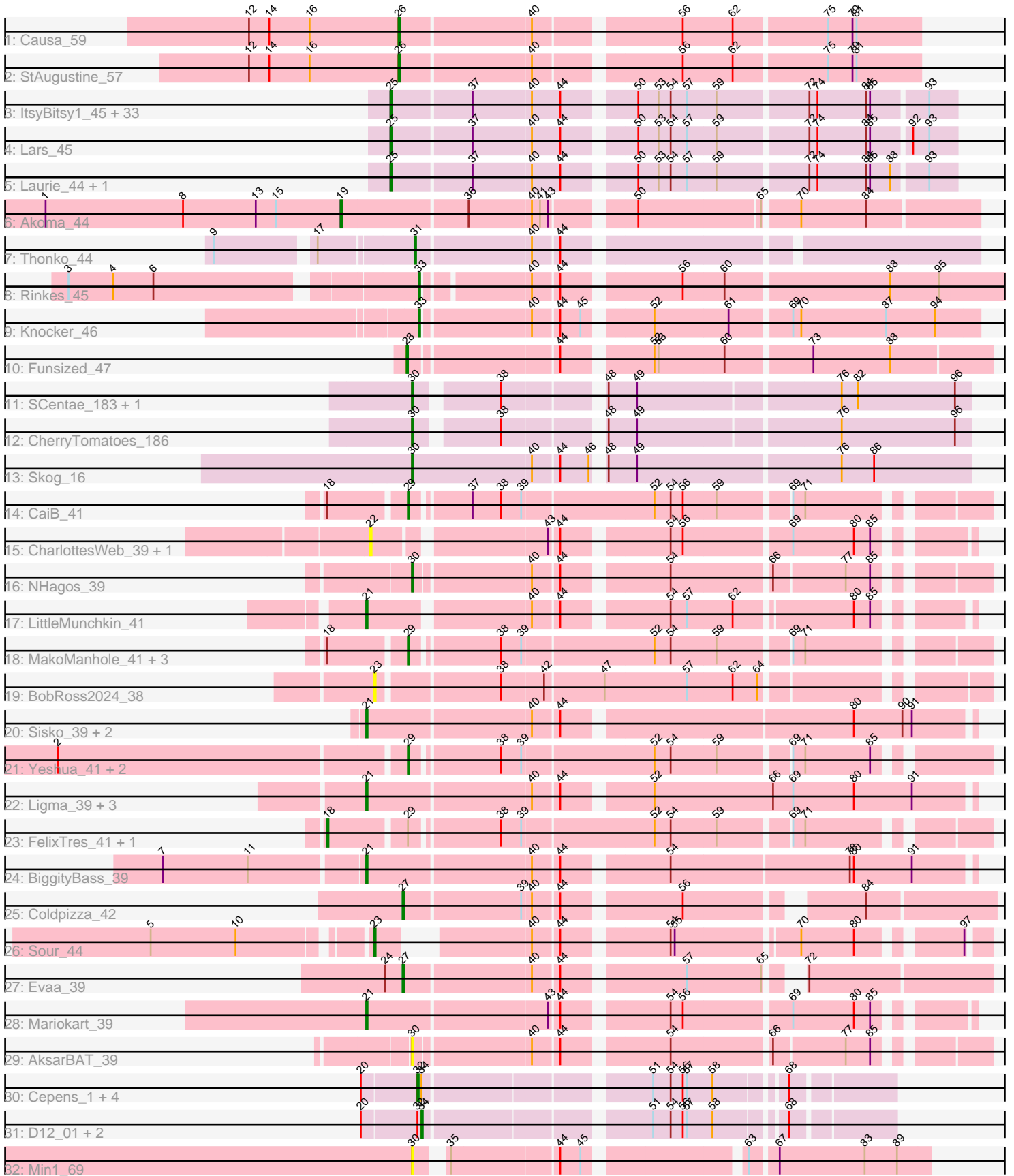


Pham 311485



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 311485 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311485 has 85 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Causa_59
- Track 2 : StAugustine_57
- Track 3 : ItsyBitsy1_45, Godines_45, Coffee_45, Calamitous_45, Kaleb_45, Boyle_45, Eaglehorse_45, Phantasmagoria_45, West99_45, Hedgerow_45, Arbiter_44, TA17A_46, Holeinone_45, LizLemon_45, Sabella_44, Brownie5_45, Blocker23_45, Tres_45, Allegro_45, Rhinoforte_45, MasterPo_45, Rosebush_44, Lephleur_45, Kolhan_45, Opia_45, Ares_45, Faze9_44, FrenchFry_45, Tinciduntolum_46, LilSmirk_45, PrinceCharming_45, Bananafish_45, Glass_45, Kheth_45
- Track 4 : Lars_45
- Track 5 : Laurie_44, Vic9_00044
- Track 6 : Akoma_44
- Track 7 : Thonko_44
- Track 8 : Rinke_45
- Track 9 : Knocker_46
- Track 10 : Funsized_47
- Track 11 : SCentae_183, Pupper_184
- Track 12 : CherryTomatoes_186
- Track 13 : Skog_16
- Track 14 : CaiB_41
- Track 15 : CharlottesWeb_39, JellyBelly_39
- Track 16 : NHagos_39
- Track 17 : LittleMunchkin_41
- Track 18 : MakoManhole_41, AnarQue_41, Blackpen_41, MossRose_41
- Track 19 : BobRoss2024_38
- Track 20 : Sisko_39, Yago84_39, AnClar_40
- Track 21 : Yeshua_41, TraderJ_41, Wooper_41
- Track 22 : Ligma_39, Fresco_39, Axumite_39, Shatter_39
- Track 23 : FelixTres_41, CloverMinnie_41
- Track 24 : BiggityBass_39
- Track 25 : Coldpizza_42
- Track 26 : Sour_44
- Track 27 : Evaa_39
- Track 28 : Mariokart_39
- Track 29 : AksarBAT_39
- Track 30 : Cepens_1, Taptic_1, Jeon_1, GodPhather_1, Megabear_1
- Track 31 : D12_01, PR_01, Argie_1

- Track 32 : Min1_69

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

The start number called the most often in the published annotations is 25, it was called in 36 of the 77 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Allegro_45, Arbiter_44, Ares_45, Bananafish_45, Blocker23_45, Boyle_45, Brownie5_45, Calamitous_45, Coffee_45, Eaglehorse_45, Faze9_44, FrenchFry_45, Glass_45, Godines_45, Hedgerow_45, Holeinone_45, ItsyBitsy1_45, Kaleb_45, Kheth_45, Kolhan_45, Lars_45, Laurie_44, Lephleur_45, LilSmirk_45, LizLemon_45, MasterPo_45, Opia_45, Phantasmagoria_45, PrinceCharming_45, Rhinoforte_45, Rosebush_44, Sabella_44, TA17A_46, Tinciduntsolum_46, Tres_45, Vic9_00044, West99_45,

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

-

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

- Akoma_44, AksarBAT_39, AnClar_40, AnarQue_41, Argie_1, Axumite_39, BiggityBass_39, Blackpen_41, BobRoss2024_38, CaiB_41, Causa_59, Cepens_1, CharlottesWeb_39, CherryTomatoes_186, CloverMinnie_41, Coldpizza_42, D12_01, Evaa_39, FelixTres_41, Fresco_39, Funsized_47, GodPhather_1, JellyBelly_39, Jeon_1, Knocker_46, Ligma_39, LittleMunchkin_41, MakoManhole_41, Mariokart_39, Megabear_1, Min1_69, MossRose_41, NHagos_39, PR_01, Pupper_184, Rinkes_45, SCentae_183, Shatter_39, Sisko_39, Skog_16, Sour_44, StAugustine_57, Taptic_1, Thonko_44, TraderJ_41, Wooper_41, Yago84_39, Yeshua_41,

Summary by start number:

Start 18:

- Found in 7 of 85 (8.2%) of genes in pham
- Manual Annotations of this start: 2 of 77
- Called 28.6% of time when present
- Phage (with cluster) where this start called: CloverMinnie_41 (DR), FelixTres_41 (DR),

Start 19:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akoma_44 (B3),

Start 21:

- Found in 10 of 85 (11.8%) of genes in pham
- Manual Annotations of this start: 10 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnClar_40 (DR), Axumite_39 (DR), BiggityBass_39 (DR), Fresco_39 (DR), Ligma_39 (DR), LittleMunchkin_41 (DR),

Mariokart_39 (DR), Shatter_39 (DR), Sisko_39 (DR), Yago84_39 (DR),

Start 22:

- Found in 2 of 85 (2.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CharlottesWeb_39 (DR), JellyBelly_39 (DR),

Start 23:

- Found in 2 of 85 (2.4%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobRoss2024_38 (DR), Sour_44 (DR),

Start 25:

- Found in 37 of 85 (43.5%) of genes in pham
- Manual Annotations of this start: 36 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Allegro_45 (B2), Arbiter_44 (B2), Ares_45 (B2), Bananafish_45 (B2), Blocker23_45 (B2), Boyle_45 (B2), Brownie5_45 (B2), Calamitous_45 (B2), Coffee_45 (B2), Eaglehorse_45 (B2), Faze9_44 (B2), FrenchFry_45 (B2), Glass_45 (B2), Godines_45 (B2), Hedgerow_45 (B2), Holeinone_45 (B2), ItsyBitsy1_45 (B2), Kaleb_45 (B2), Kheth_45 (B2), Kolhan_45 (B2), Lars_45 (B2), Laurie_44 (B2), Lephleur_45 (B2), LilSmirk_45 (B2), LizLemon_45 (B2), MasterPo_45 (B2), Opia_45 (B2), Phantasmagoria_45 (B2), PrinceCharming_45 (B2), Rhinoforte_45 (B2), Rosebush_44 (B2), Sabella_44 (B2), TA17A_46 (B2), Tinciduntolum_46 (B2), Tres_45 (B2), Vic9_00044 (B2), West99_45 (B2),

Start 26:

- Found in 2 of 85 (2.4%) of genes in pham
- Manual Annotations of this start: 2 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Causa_59 (AI), StAugustine_57 (AI),

Start 27:

- Found in 2 of 85 (2.4%) of genes in pham
- Manual Annotations of this start: 2 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Coldpizza_42 (DR), Evaa_39 (DR),

Start 28:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Funsized_47 (B9),

Start 29:

- Found in 10 of 85 (11.8%) of genes in pham
- Manual Annotations of this start: 6 of 77
- Called 80.0% of time when present

- Phage (with cluster) where this start called: AnarQue_41 (DR), Blackpen_41 (DR), CaiB_41 (DR), MakoManhole_41 (DR), MossRose_41 (DR), TraderJ_41 (DR), Woooper_41 (DR), Yeshua_41 (DR),

Start 30:

- Found in 7 of 85 (8.2%) of genes in pham
- Manual Annotations of this start: 5 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_39 (DR), CherryTomatoes_186 (DO), Min1_69 (singleton), NHagos_39 (DR), Pupper_184 (DO), SCentae_183 (DO), Skog_16 (DO),

Start 31:

- Found in 1 of 85 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thonko_44 (B8),

Start 32:

- Found in 8 of 85 (9.4%) of genes in pham
- Manual Annotations of this start: 5 of 77
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Cepens_1 (W), GodPhather_1 (W), Jeon_1 (W), Megabear_1 (W), Taptic_1 (W),

Start 33:

- Found in 2 of 85 (2.4%) of genes in pham
- Manual Annotations of this start: 2 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Knocker_46 (B9), Rinkes_45 (B9),

Start 34:

- Found in 8 of 85 (9.4%) of genes in pham
- Manual Annotations of this start: 3 of 77
- Called 37.5% of time when present
- Phage (with cluster) where this start called: Argie_1 (W), D12_01 (W), PR_01 (W),

Summary by clusters:

There are 9 clusters represented in this pham: DO, singleton, B2, AI, B8, W, B3, DR, B9,

Info for manual annotations of cluster AI:

- Start number 26 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster B2:

- Start number 25 was manually annotated 36 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 19 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster B8:

- Start number 31 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 28 was manually annotated 1 time for cluster B9.
- Start number 33 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster DO:

- Start number 30 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 18 was manually annotated 2 times for cluster DR.
- Start number 21 was manually annotated 10 times for cluster DR.
- Start number 23 was manually annotated 1 time for cluster DR.
- Start number 27 was manually annotated 2 times for cluster DR.
- Start number 29 was manually annotated 6 times for cluster DR.
- Start number 30 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster W:

- Start number 32 was manually annotated 5 times for cluster W.
- Start number 34 was manually annotated 3 times for cluster W.

Gene Information:

Gene: Akoma_44 Start: 39465, Stop: 39028, Start Num: 19

Candidate Starts for Akoma_44:

(1, 39684), (8, 39582), (13, 39528), (15, 39513), (Start: 19 @39465 has 1 MA's), (36, 39375), (40, 39330), (41, 39324), (43, 39318), (50, 39267), (65, 39180), (70, 39156), (84, 39108),

Gene: AksarBAT_39 Start: 33818, Stop: 33444, Start Num: 30

Candidate Starts for AksarBAT_39:

(Start: 30 @33818 has 5 MA's), (40, 33737), (44, 33719), (54, 33650), (66, 33581), (77, 33530), (85, 33512),

Gene: Allegro_45 Start: 39852, Stop: 39463, Start Num: 25

Candidate Starts for Allegro_45:

(Start: 25 @39852 has 36 MA's), (37, 39795), (40, 39753), (44, 39732), (50, 39687), (53, 39672), (54, 39663), (57, 39651), (59, 39630), (72, 39567), (74, 39561), (84, 39525), (85, 39522), (93, 39483),

Gene: AnClar_40 Start: 36039, Stop: 35620, Start Num: 21

Candidate Starts for AnClar_40:

(Start: 21 @36039 has 10 MA's), (40, 35922), (44, 35904), (80, 35703), (90, 35667), (91, 35661),

Gene: AnarQue_41 Start: 35226, Stop: 34840, Start Num: 29

Candidate Starts for AnarQue_41:

(Start: 18 @35280 has 2 MA's), (Start: 29 @35226 has 6 MA's), (38, 35166), (39, 35151), (52, 35058), (54, 35046), (59, 35013), (69, 34965), (71, 34956),

Gene: Arbiter_44 Start: 39938, Stop: 39549, Start Num: 25

Candidate Starts for Arbiter_44:

(Start: 25 @39938 has 36 MA's), (37, 39881), (40, 39839), (44, 39818), (50, 39773), (53, 39758), (54, 39749), (57, 39737), (59, 39716), (72, 39653), (74, 39647), (84, 39611), (85, 39608), (93, 39569),

Gene: Ares_45 Start: 39922, Stop: 39533, Start Num: 25

Candidate Starts for Ares_45:

(Start: 25 @39922 has 36 MA's), (37, 39865), (40, 39823), (44, 39802), (50, 39757), (53, 39742), (54, 39733), (57, 39721), (59, 39700), (72, 39637), (74, 39631), (84, 39595), (85, 39592), (93, 39553),

Gene: Argie_1 Start: 43, Stop: 351, Start Num: 34

Candidate Starts for Argie_1:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Axumite_39 Start: 33273, Stop: 32851, Start Num: 21

Candidate Starts for Axumite_39:

(Start: 21 @33273 has 10 MA's), (40, 33156), (44, 33138), (52, 33081), (66, 32994), (69, 32979), (80, 32934), (91, 32892),

Gene: Bananafish_45 Start: 39858, Stop: 39469, Start Num: 25

Candidate Starts for Bananafish_45:

(Start: 25 @39858 has 36 MA's), (37, 39801), (40, 39759), (44, 39738), (50, 39693), (53, 39678), (54, 39669), (57, 39657), (59, 39636), (72, 39573), (74, 39567), (84, 39531), (85, 39528), (93, 39489),

Gene: BiggityBass_39 Start: 35501, Stop: 35082, Start Num: 21

Candidate Starts for BiggityBass_39:

(7, 35645), (11, 35582), (Start: 21 @35501 has 10 MA's), (40, 35384), (44, 35366), (54, 35297), (78, 35168), (80, 35165), (91, 35123),

Gene: Blackpen_41 Start: 34644, Stop: 34258, Start Num: 29

Candidate Starts for Blackpen_41:

(Start: 18 @34698 has 2 MA's), (Start: 29 @34644 has 6 MA's), (38, 34584), (39, 34569), (52, 34476), (54, 34464), (59, 34431), (69, 34383), (71, 34374),

Gene: Blocker23_45 Start: 39976, Stop: 39587, Start Num: 25

Candidate Starts for Blocker23_45:

(Start: 25 @39976 has 36 MA's), (37, 39919), (40, 39877), (44, 39856), (50, 39811), (53, 39796), (54, 39787), (57, 39775), (59, 39754), (72, 39691), (74, 39685), (84, 39649), (85, 39646), (93, 39607),

Gene: BobRoss2024_38 Start: 33364, Stop: 32954, Start Num: 23

Candidate Starts for BobRoss2024_38:

(Start: 23 @33364 has 1 MA's), (38, 33280), (42, 33250), (47, 33208), (57, 33148), (62, 33115), (64, 33097),

Gene: Boyle_45 Start: 39977, Stop: 39588, Start Num: 25

Candidate Starts for Boyle_45:

(Start: 25 @39977 has 36 MA's), (37, 39920), (40, 39878), (44, 39857), (50, 39812), (53, 39797), (54, 39788), (57, 39776), (59, 39755), (72, 39692), (74, 39686), (84, 39650), (85, 39647), (93, 39608),

Gene: Brownie5_45 Start: 39983, Stop: 39594, Start Num: 25

Candidate Starts for Brownie5_45:

(Start: 25 @39983 has 36 MA's), (37, 39926), (40, 39884), (44, 39863), (50, 39818), (53, 39803), (54, 39794), (57, 39782), (59, 39761), (72, 39698), (74, 39692), (84, 39656), (85, 39653), (93, 39614),

Gene: CaiB_41 Start: 35212, Stop: 34826, Start Num: 29

Candidate Starts for CaiB_41:

(Start: 18 @35266 has 2 MA's), (Start: 29 @35212 has 6 MA's), (37, 35173), (38, 35152), (39, 35137), (52, 35044), (54, 35032), (56, 35023), (59, 34999), (69, 34951), (71, 34942),

Gene: Calamitous_45 Start: 39863, Stop: 39474, Start Num: 25

Candidate Starts for Calamitous_45:

(Start: 25 @39863 has 36 MA's), (37, 39806), (40, 39764), (44, 39743), (50, 39698), (53, 39683), (54, 39674), (57, 39662), (59, 39641), (72, 39578), (74, 39572), (84, 39536), (85, 39533), (93, 39494),

Gene: Causa_59 Start: 48193, Stop: 47834, Start Num: 26

Candidate Starts for Causa_59:

(12, 48304), (14, 48289), (16, 48259), (Start: 26 @48193 has 2 MA's), (40, 48100), (56, 48004), (62, 47968), (75, 47902), (79, 47884), (81, 47881),

Gene: Cepens_1 Start: 40, Stop: 351, Start Num: 32

Candidate Starts for Cepens_1:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: CharlottesWeb_39 Start: 33161, Stop: 32775, Start Num: 22

Candidate Starts for CharlottesWeb_39:

(22, 33161), (43, 33047), (44, 33041), (54, 32972), (56, 32963), (69, 32888), (80, 32843), (85, 32831),

Gene: CherryTomatoes_186 Start: 132867, Stop: 133241, Start Num: 30

Candidate Starts for CherryTomatoes_186:

(Start: 30 @132867 has 5 MA's), (38, 132921), (48, 132984), (49, 133005), (76, 133146), (96, 133230),

Gene: CloverMinnie_41 Start: 35206, Stop: 34766, Start Num: 18

Candidate Starts for CloverMinnie_41:

(Start: 18 @35206 has 2 MA's), (Start: 29 @35152 has 6 MA's), (38, 35092), (39, 35077), (52, 34984), (54, 34972), (59, 34939), (69, 34891), (71, 34882),

Gene: Coffee_45 Start: 39966, Stop: 39577, Start Num: 25

Candidate Starts for Coffee_45:

(Start: 25 @39966 has 36 MA's), (37, 39909), (40, 39867), (44, 39846), (50, 39801), (53, 39786), (54, 39777), (57, 39765), (59, 39744), (72, 39681), (74, 39675), (84, 39639), (85, 39636), (93, 39597),

Gene: Coldpizza_42 Start: 37983, Stop: 37594, Start Num: 27

Candidate Starts for Coldpizza_42:

(Start: 27 @37983 has 2 MA's), (39, 37899), (40, 37893), (44, 37875), (56, 37797), (84, 37686),

Gene: D12_01 Start: 43, Stop: 351, Start Num: 34

Candidate Starts for D12_01:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Eaglehorse_45 Start: 39890, Stop: 39501, Start Num: 25

Candidate Starts for Eaglehorse_45:

(Start: 25 @39890 has 36 MA's), (37, 39833), (40, 39791), (44, 39770), (50, 39725), (53, 39710), (54, 39701), (57, 39689), (59, 39668), (72, 39605), (74, 39599), (84, 39563), (85, 39560), (93, 39521),

Gene: Evaa_39 Start: 34284, Stop: 33898, Start Num: 27

Candidate Starts for Evaa_39:

(24, 34296), (Start: 27 @34284 has 2 MA's), (40, 34194), (44, 34176), (57, 34095), (65, 34041), (72, 34029),

Gene: Faze9_44 Start: 39986, Stop: 39597, Start Num: 25

Candidate Starts for Faze9_44:

(Start: 25 @39986 has 36 MA's), (37, 39929), (40, 39887), (44, 39866), (50, 39821), (53, 39806), (54, 39797), (57, 39785), (59, 39764), (72, 39701), (74, 39695), (84, 39659), (85, 39656), (93, 39617),

Gene: FelixTres_41 Start: 35269, Stop: 34829, Start Num: 18

Candidate Starts for FelixTres_41:

(Start: 18 @35269 has 2 MA's), (Start: 29 @35215 has 6 MA's), (38, 35155), (39, 35140), (52, 35047), (54, 35035), (59, 35002), (69, 34954), (71, 34945),

Gene: FrenchFry_45 Start: 39980, Stop: 39591, Start Num: 25

Candidate Starts for FrenchFry_45:

(Start: 25 @39980 has 36 MA's), (37, 39923), (40, 39881), (44, 39860), (50, 39815), (53, 39800), (54, 39791), (57, 39779), (59, 39758), (72, 39695), (74, 39689), (84, 39653), (85, 39650), (93, 39611),

Gene: Fresco_39 Start: 33273, Stop: 32851, Start Num: 21

Candidate Starts for Fresco_39:

(Start: 21 @33273 has 10 MA's), (40, 33156), (44, 33138), (52, 33081), (66, 32994), (69, 32979), (80, 32934), (91, 32892),

Gene: Funsized_47 Start: 42156, Stop: 41758, Start Num: 28

Candidate Starts for Funsized_47:

(Start: 28 @42156 has 1 MA's), (44, 42054), (52, 41997), (53, 41994), (60, 41946), (73, 41886), (88, 41829),

Gene: Glass_45 Start: 39980, Stop: 39591, Start Num: 25

Candidate Starts for Glass_45:

(Start: 25 @39980 has 36 MA's), (37, 39923), (40, 39881), (44, 39860), (50, 39815), (53, 39800), (54, 39791), (57, 39779), (59, 39758), (72, 39695), (74, 39689), (84, 39653), (85, 39650), (93, 39611),

Gene: GodPhather_1 Start: 40, Stop: 351, Start Num: 32

Candidate Starts for GodPhather_1:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Godines_45 Start: 39922, Stop: 39533, Start Num: 25

Candidate Starts for Godines_45:

(Start: 25 @39922 has 36 MA's), (37, 39865), (40, 39823), (44, 39802), (50, 39757), (53, 39742), (54, 39733), (57, 39721), (59, 39700), (72, 39637), (74, 39631), (84, 39595), (85, 39592), (93, 39553),

Gene: Hedgerow_45 Start: 39962, Stop: 39573, Start Num: 25

Candidate Starts for Hedgerow_45:

(Start: 25 @39962 has 36 MA's), (37, 39905), (40, 39863), (44, 39842), (50, 39797), (53, 39782), (54, 39773), (57, 39761), (59, 39740), (72, 39677), (74, 39671), (84, 39635), (85, 39632), (93, 39593),

Gene: Holeinone_45 Start: 39842, Stop: 39453, Start Num: 25

Candidate Starts for Holeinone_45:

(Start: 25 @39842 has 36 MA's), (37, 39785), (40, 39743), (44, 39722), (50, 39677), (53, 39662), (54, 39653), (57, 39641), (59, 39620), (72, 39557), (74, 39551), (84, 39515), (85, 39512), (93, 39473),

Gene: ItsyBitsy1_45 Start: 39844, Stop: 39455, Start Num: 25

Candidate Starts for ItsyBitsy1_45:

(Start: 25 @39844 has 36 MA's), (37, 39787), (40, 39745), (44, 39724), (50, 39679), (53, 39664), (54, 39655), (57, 39643), (59, 39622), (72, 39559), (74, 39553), (84, 39517), (85, 39514), (93, 39475),

Gene: JellyBelly_39 Start: 33164, Stop: 32778, Start Num: 22

Candidate Starts for JellyBelly_39:

(22, 33164), (43, 33050), (44, 33044), (54, 32975), (56, 32966), (69, 32891), (80, 32846), (85, 32834),

Gene: Jeon_1 Start: 40, Stop: 351, Start Num: 32

Candidate Starts for Jeon_1:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Kaleb_45 Start: 39977, Stop: 39588, Start Num: 25

Candidate Starts for Kaleb_45:

(Start: 25 @39977 has 36 MA's), (37, 39920), (40, 39878), (44, 39857), (50, 39812), (53, 39797), (54, 39788), (57, 39776), (59, 39755), (72, 39692), (74, 39686), (84, 39650), (85, 39647), (93, 39608),

Gene: Kheth_45 Start: 39865, Stop: 39476, Start Num: 25

Candidate Starts for Kheth_45:

(Start: 25 @39865 has 36 MA's), (37, 39808), (40, 39766), (44, 39745), (50, 39700), (53, 39685), (54, 39676), (57, 39664), (59, 39643), (72, 39580), (74, 39574), (84, 39538), (85, 39535), (93, 39496),

Gene: Knocker_46 Start: 41265, Stop: 40882, Start Num: 33

Candidate Starts for Knocker_46:

(Start: 33 @41265 has 2 MA's), (40, 41190), (44, 41172), (45, 41157), (52, 41115), (61, 41061), (69, 41019), (70, 41013), (87, 40950), (94, 40914),

Gene: Kolhan_45 Start: 39856, Stop: 39467, Start Num: 25

Candidate Starts for Kolhan_45:

(Start: 25 @39856 has 36 MA's), (37, 39799), (40, 39757), (44, 39736), (50, 39691), (53, 39676), (54, 39667), (57, 39655), (59, 39634), (72, 39571), (74, 39565), (84, 39529), (85, 39526), (93, 39487),

Gene: Lars_45 Start: 39967, Stop: 39578, Start Num: 25

Candidate Starts for Lars_45:

(Start: 25 @39967 has 36 MA's), (37, 39910), (40, 39868), (44, 39847), (50, 39802), (53, 39787), (54, 39778), (57, 39766), (59, 39745), (72, 39682), (74, 39676), (84, 39640), (85, 39637), (92, 39610), (93, 39598),

Gene: Laurie_44 Start: 39366, Stop: 38977, Start Num: 25

Candidate Starts for Laurie_44:

(Start: 25 @39366 has 36 MA's), (37, 39309), (40, 39267), (44, 39246), (50, 39201), (53, 39186), (54, 39177), (57, 39165), (59, 39144), (72, 39081), (74, 39075), (84, 39039), (85, 39036), (88, 39021), (93, 38997),

Gene: Lephleur_45 Start: 39860, Stop: 39471, Start Num: 25

Candidate Starts for Lephleur_45:

(Start: 25 @39860 has 36 MA's), (37, 39803), (40, 39761), (44, 39740), (50, 39695), (53, 39680), (54, 39671), (57, 39659), (59, 39638), (72, 39575), (74, 39569), (84, 39533), (85, 39530), (93, 39491),

Gene: Ligma_39 Start: 33273, Stop: 32851, Start Num: 21

Candidate Starts for Ligma_39:

(Start: 21 @33273 has 10 MA's), (40, 33156), (44, 33138), (52, 33081), (66, 32994), (69, 32979), (80, 32934), (91, 32892),

Gene: LilSmirk_45 Start: 39854, Stop: 39465, Start Num: 25

Candidate Starts for LilSmirk_45:

(Start: 25 @39854 has 36 MA's), (37, 39797), (40, 39755), (44, 39734), (50, 39689), (53, 39674), (54, 39665), (57, 39653), (59, 39632), (72, 39569), (74, 39563), (84, 39527), (85, 39524), (93, 39485),

Gene: LittleMunchkin_41 Start: 36568, Stop: 36182, Start Num: 21

Candidate Starts for LittleMunchkin_41:

(Start: 21 @36568 has 10 MA's), (40, 36460), (44, 36442), (54, 36373), (57, 36361), (62, 36328), (80, 36247), (85, 36235),

Gene: LizLemon_45 Start: 39976, Stop: 39587, Start Num: 25

Candidate Starts for LizLemon_45:

(Start: 25 @39976 has 36 MA's), (37, 39919), (40, 39877), (44, 39856), (50, 39811), (53, 39796), (54, 39787), (57, 39775), (59, 39754), (72, 39691), (74, 39685), (84, 39649), (85, 39646), (93, 39607),

Gene: MakoManhole_41 Start: 35230, Stop: 34844, Start Num: 29

Candidate Starts for MakoManhole_41:

(Start: 18 @35284 has 2 MA's), (Start: 29 @35230 has 6 MA's), (38, 35170), (39, 35155), (52, 35062), (54, 35050), (59, 35017), (69, 34969), (71, 34960),

Gene: Mariokart_39 Start: 33175, Stop: 32774, Start Num: 21

Candidate Starts for Mariokart_39:

(Start: 21 @33175 has 10 MA's), (43, 33046), (44, 33040), (54, 32971), (56, 32962), (69, 32887), (80, 32842), (85, 32830),

Gene: MasterPo_45 Start: 39863, Stop: 39474, Start Num: 25

Candidate Starts for MasterPo_45:

(Start: 25 @39863 has 36 MA's), (37, 39806), (40, 39764), (44, 39743), (50, 39698), (53, 39683), (54, 39674), (57, 39662), (59, 39641), (72, 39578), (74, 39572), (84, 39536), (85, 39533), (93, 39494),

Gene: Megabear_1 Start: 40, Stop: 351, Start Num: 32

Candidate Starts for Megabear_1:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Min1_69 Start: 40462, Stop: 40127, Start Num: 30

Candidate Starts for Min1_69:

(Start: 30 @40462 has 5 MA's), (35, 40447), (44, 40372), (45, 40357), (63, 40255), (67, 40237), (83, 40174), (89, 40150),

Gene: MossRose_41 Start: 35209, Stop: 34823, Start Num: 29

Candidate Starts for MossRose_41:

(Start: 18 @35263 has 2 MA's), (Start: 29 @35209 has 6 MA's), (38, 35149), (39, 35134), (52, 35041), (54, 35029), (59, 34996), (69, 34948), (71, 34939),

Gene: NHagos_39 Start: 33821, Stop: 33447, Start Num: 30

Candidate Starts for NHagos_39:

(Start: 30 @33821 has 5 MA's), (40, 33740), (44, 33722), (54, 33653), (66, 33584), (77, 33533), (85, 33515),

Gene: Opia_45 Start: 39849, Stop: 39460, Start Num: 25

Candidate Starts for Opia_45:

(Start: 25 @39849 has 36 MA's), (37, 39792), (40, 39750), (44, 39729), (50, 39684), (53, 39669), (54, 39660), (57, 39648), (59, 39627), (72, 39564), (74, 39558), (84, 39522), (85, 39519), (93, 39480),

Gene: PR_01 Start: 43, Stop: 351, Start Num: 34

Candidate Starts for PR_01:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Phantasmagoria_45 Start: 39861, Stop: 39472, Start Num: 25

Candidate Starts for Phantasmagoria_45:

(Start: 25 @39861 has 36 MA's), (37, 39804), (40, 39762), (44, 39741), (50, 39696), (53, 39681), (54, 39672), (57, 39660), (59, 39639), (72, 39576), (74, 39570), (84, 39534), (85, 39531), (93, 39492),

Gene: PrinceCharming_45 Start: 39969, Stop: 39580, Start Num: 25

Candidate Starts for PrinceCharming_45:

(Start: 25 @39969 has 36 MA's), (37, 39912), (40, 39870), (44, 39849), (50, 39804), (53, 39789), (54, 39780), (57, 39768), (59, 39747), (72, 39684), (74, 39678), (84, 39642), (85, 39639), (93, 39600),

Gene: Pupper_184 Start: 132729, Stop: 133103, Start Num: 30

Candidate Starts for Pupper_184:

(Start: 30 @132729 has 5 MA's), (38, 132783), (48, 132846), (49, 132867), (76, 133008), (82, 133020), (96, 133092),

Gene: Rhinoforte_45 Start: 39970, Stop: 39581, Start Num: 25

Candidate Starts for Rhinoforte_45:

(Start: 25 @39970 has 36 MA's), (37, 39913), (40, 39871), (44, 39850), (50, 39805), (53, 39790), (54, 39781), (57, 39769), (59, 39748), (72, 39685), (74, 39679), (84, 39643), (85, 39640), (93, 39601),

Gene: Rinkes_45 Start: 40821, Stop: 40423, Start Num: 33

Candidate Starts for Rinkes_45:

(3, 41061), (4, 41028), (6, 40998), (Start: 33 @40821 has 2 MA's), (40, 40752), (44, 40734), (56, 40656), (60, 40626), (88, 40509), (95, 40473),

Gene: Rosebush_44 Start: 39977, Stop: 39588, Start Num: 25

Candidate Starts for Rosebush_44:

(Start: 25 @39977 has 36 MA's), (37, 39920), (40, 39878), (44, 39857), (50, 39812), (53, 39797), (54, 39788), (57, 39776), (59, 39755), (72, 39692), (74, 39686), (84, 39650), (85, 39647), (93, 39608),

Gene: SCentae_183 Start: 132921, Stop: 133295, Start Num: 30

Candidate Starts for SCentae_183:

(Start: 30 @132921 has 5 MA's), (38, 132975), (48, 133038), (49, 133059), (76, 133200), (82, 133212), (96, 133284),

Gene: Sabella_44 Start: 39854, Stop: 39465, Start Num: 25

Candidate Starts for Sabella_44:

(Start: 25 @39854 has 36 MA's), (37, 39797), (40, 39755), (44, 39734), (50, 39689), (53, 39674), (54, 39665), (57, 39653), (59, 39632), (72, 39569), (74, 39563), (84, 39527), (85, 39524), (93, 39485),

Gene: Shatter_39 Start: 33273, Stop: 32851, Start Num: 21

Candidate Starts for Shatter_39:

(Start: 21 @33273 has 10 MA's), (40, 33156), (44, 33138), (52, 33081), (66, 32994), (69, 32979), (80, 32934), (91, 32892),

Gene: Sisko_39 Start: 34043, Stop: 33624, Start Num: 21

Candidate Starts for Sisko_39:

(Start: 21 @34043 has 10 MA's), (40, 33926), (44, 33908), (80, 33707), (90, 33671), (91, 33665),

Gene: Skog_16 Start: 8706, Stop: 9095, Start Num: 30

Candidate Starts for Skog_16:

(Start: 30 @8706 has 5 MA's), (40, 8793), (44, 8811), (46, 8832), (48, 8835), (49, 8856), (76, 9000), (86, 9024),

Gene: Sour_44 Start: 37942, Stop: 37568, Start Num: 23

Candidate Starts for Sour_44:

(5, 38089), (10, 38026), (Start: 23 @37942 has 1 MA's), (40, 37858), (44, 37840), (54, 37771), (55, 37768), (70, 37684), (80, 37645), (97, 37582),

Gene: StAugustine_57 Start: 48208, Stop: 47849, Start Num: 26

Candidate Starts for StAugustine_57:

(12, 48319), (14, 48304), (16, 48274), (Start: 26 @48208 has 2 MA's), (40, 48115), (56, 48019), (62, 47983), (75, 47917), (79, 47899), (81, 47896),

Gene: TA17A_46 Start: 39844, Stop: 39455, Start Num: 25

Candidate Starts for TA17A_46:

(Start: 25 @39844 has 36 MA's), (37, 39787), (40, 39745), (44, 39724), (50, 39679), (53, 39664), (54, 39655), (57, 39643), (59, 39622), (72, 39559), (74, 39553), (84, 39517), (85, 39514), (93, 39475),

Gene: Taptic_1 Start: 40, Stop: 351, Start Num: 32

Candidate Starts for Taptic_1:

(20, 1), (Start: 32 @40 has 5 MA's), (Start: 34 @43 has 3 MA's), (51, 193), (54, 205), (56, 214), (57, 217), (58, 235), (68, 280),

Gene: Thonko_44 Start: 37338, Stop: 36958, Start Num: 31

Candidate Starts for Thonko_44:

(9, 37470), (17, 37404), (Start: 31 @37338 has 1 MA's), (40, 37257), (44, 37239),

Gene: Tinciduntolum_46 Start: 39982, Stop: 39593, Start Num: 25

Candidate Starts for Tinciduntolum_46:

(Start: 25 @39982 has 36 MA's), (37, 39925), (40, 39883), (44, 39862), (50, 39817), (53, 39802), (54, 39793), (57, 39781), (59, 39760), (72, 39697), (74, 39691), (84, 39655), (85, 39652), (93, 39613),

Gene: TraderJ_41 Start: 35242, Stop: 34853, Start Num: 29

Candidate Starts for TraderJ_41:

(2, 35491), (Start: 29 @35242 has 6 MA's), (38, 35182), (39, 35167), (52, 35074), (54, 35062), (59, 35029), (69, 34981), (71, 34972), (85, 34924),

Gene: Tres_45 Start: 39857, Stop: 39468, Start Num: 25

Candidate Starts for Tres_45:

(Start: 25 @39857 has 36 MA's), (37, 39800), (40, 39758), (44, 39737), (50, 39692), (53, 39677), (54, 39668), (57, 39656), (59, 39635), (72, 39572), (74, 39566), (84, 39530), (85, 39527), (93, 39488),

Gene: Vic9_00044 Start: 40363, Stop: 39974, Start Num: 25

Candidate Starts for Vic9_00044:

(Start: 25 @40363 has 36 MA's), (37, 40306), (40, 40264), (44, 40243), (50, 40198), (53, 40183), (54, 40174), (57, 40162), (59, 40141), (72, 40078), (74, 40072), (84, 40036), (85, 40033), (88, 40018), (93, 39994),

Gene: West99_45 Start: 39977, Stop: 39588, Start Num: 25

Candidate Starts for West99_45:

(Start: 25 @39977 has 36 MA's), (37, 39920), (40, 39878), (44, 39857), (50, 39812), (53, 39797), (54, 39788), (57, 39776), (59, 39755), (72, 39692), (74, 39686), (84, 39650), (85, 39647), (93, 39608),

Gene: Wooper_41 Start: 35248, Stop: 34859, Start Num: 29

Candidate Starts for Wooper_41:

(2, 35497), (Start: 29 @35248 has 6 MA's), (38, 35188), (39, 35173), (52, 35080), (54, 35068), (59, 35035), (69, 34987), (71, 34978), (85, 34930),

Gene: Yago84_39 Start: 34117, Stop: 33698, Start Num: 21

Candidate Starts for Yago84_39:

(Start: 21 @34117 has 10 MA's), (40, 34000), (44, 33982), (80, 33781), (90, 33745), (91, 33739),

Gene: Yeshua_41 Start: 35225, Stop: 34836, Start Num: 29

Candidate Starts for Yeshua_41:

(2, 35474), (Start: 29 @35225 has 6 MA's), (38, 35165), (39, 35150), (52, 35057), (54, 35045), (59, 35012), (69, 34964), (71, 34955), (85, 34907),