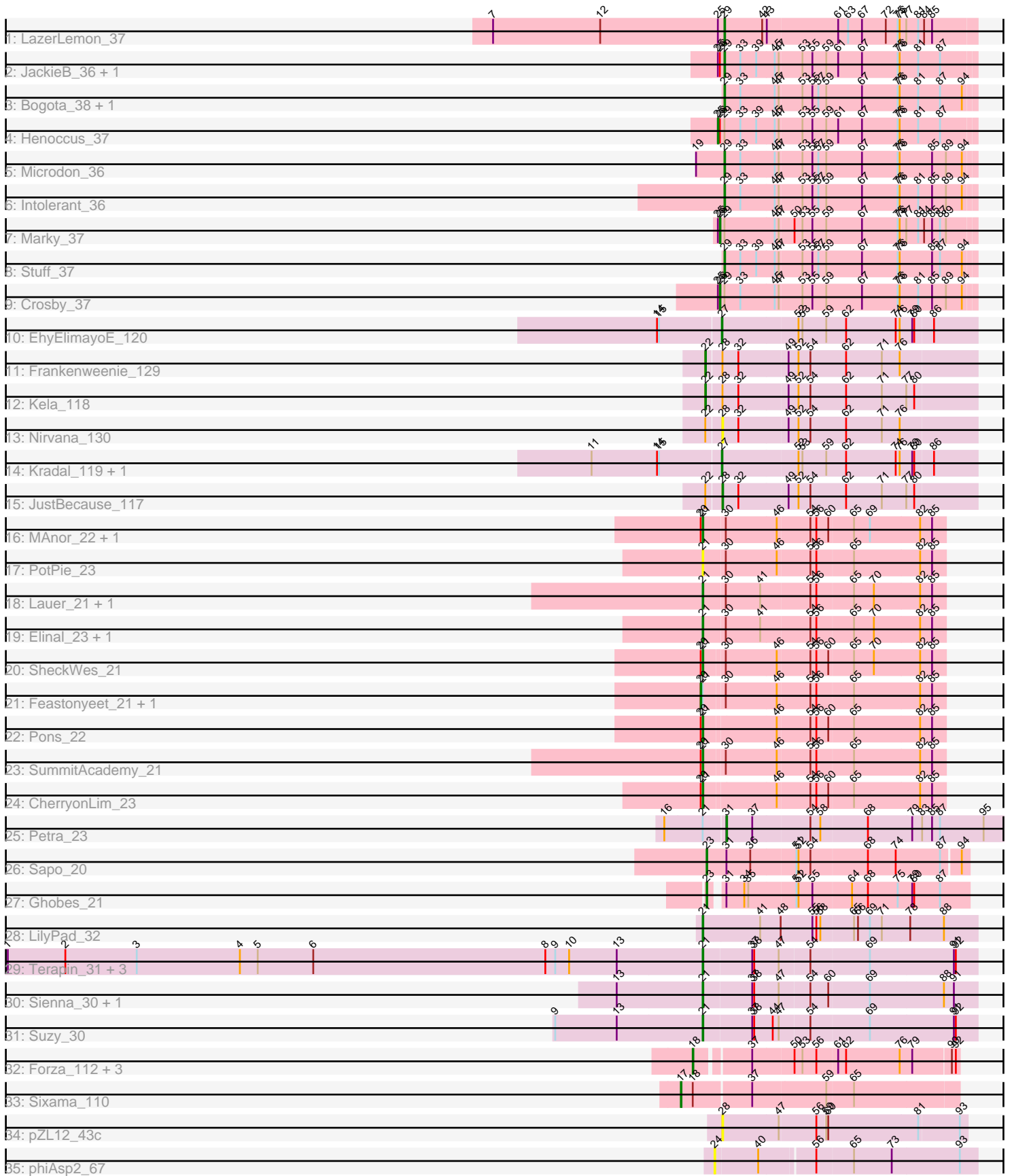


Pham 163670



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 163670 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163670 has 49 members, 6 are drafts.

Phages represented in each track:

- Track 1 : LazerLemon_37
- Track 2 : JackieB_36, Araceli_37
- Track 3 : Bogota_38, UNTPL_38
- Track 4 : Henoccus_37
- Track 5 : Microdon_36
- Track 6 : Intolerant_36
- Track 7 : Marky_37
- Track 8 : Stuff_37
- Track 9 : Crosby_37
- Track 10 : EhyElimayoE_120
- Track 11 : Frankenweenie_129
- Track 12 : Kela_118
- Track 13 : Nirvana_130
- Track 14 : Kradal_119, Satis_119
- Track 15 : JustBecause_117
- Track 16 : MAnor_22, Mayweather_23
- Track 17 : PotPie_23
- Track 18 : Lauer_21, Vine_23
- Track 19 : Elinal_23, KayGee_21
- Track 20 : SheckWes_21
- Track 21 : Feastonyeet_21, BigChungus_21
- Track 22 : Pons_22
- Track 23 : SummitAcademy_21
- Track 24 : CherryonLim_23
- Track 25 : Petra_23
- Track 26 : Sapo_20
- Track 27 : Ghobes_21
- Track 28 : LilyPad_32
- Track 29 : Terapin_31, Djokovic_30, BiteSize_30, Beyoncage_30
- Track 30 : Sienna_30, Madi_30
- Track 31 : Suzy_30
- Track 32 : Forza_112, BlueNGold_111, Boopy_112, Mareelih_110
- Track 33 : Sixama_110
- Track 34 : pZL12_43c
- Track 35 : phiAsp2_67

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

The start number called the most often in the published annotations is 21, it was called in 16 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beyoncage_30, BiteSize_30, CherryonLim_23, Djokovic_30, Elinal_23, KayGee_21, Lauer_21, LilyPad_32, MAnor_22, Madi_30, Mayweather_23, Pons_22, PotPie_23, SheckWes_21, Sienna_30, SummitAcademy_21, Suzy_30, Terapin_31, Vine_23,

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

- BigChungus_21, Feastonyeet_21, Petra_23,

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

- Araceli_37, BlueNGold_111, Bogota_38, Boopy_112, Crosby_37, EhyElimayoE_120, Forza_112, Frankenweenie_129, Ghobes_21, Henoccus_37, Intolerant_36, JackieB_36, JustBecause_117, Kela_118, Kradal_119, LazerLemon_37, Mareelih_110, Marky_37, Microdon_36, Nirvana_130, Sapo_20, Satis_119, Sixama_110, Stuff_37, UNTPL_38, pZL12_43c, phiAsp2_67,

Summary by start number:

Start 17:

- Found in 1 of 49 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sixama_110 (DS),

Start 18:

- Found in 5 of 49 (10.2%) of genes in pham
- Manual Annotations of this start: 4 of 43
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BlueNGold_111 (DS), Boopy_112 (DS), Forza_112 (DS), Mareelih_110 (DS),

Start 20:

- Found in 8 of 49 (16.3%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 25.0% of time when present
- Phage (with cluster) where this start called: BigChungus_21 (CT), Feastonyeet_21 (CT),

Start 21:

- Found in 22 of 49 (44.9%) of genes in pham
- Manual Annotations of this start: 16 of 43
- Called 86.4% of time when present
- Phage (with cluster) where this start called: Beyoncage_30 (DG1), BiteSize_30 (DG1), CherryonLim_23 (CT), Djokovic_30 (DG1), Elinal_23 (CT), KayGee_21 (CT), Lauer_21 (CT), LilyPad_32 (DG1), MAnor_22 (CT), Madi_30 (DG1), Mayweather_23 (CT), Pons_22 (CT), PotPie_23 (CT), SheckWes_21 (CT), Sienna_30 (DG1), SummitAcademy_21 (CT), Suzy_30 (DG1), Terapin_31 (DG1), Vine_23 (CT),

Start 22:

- Found in 4 of 49 (8.2%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Frankenweenie_129 (BM), Kela_118 (BM),

Start 23:

- Found in 2 of 49 (4.1%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ghobes_21 (DA), Sapo_20 (DA),

Start 24:

- Found in 1 of 49 (2.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: phiAsp2_67 (singleton),

Start 25:

- Found in 6 of 49 (12.2%) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Henoccus_37 (BH),

Start 26:

- Found in 5 of 49 (10.2%) of genes in pham
- Manual Annotations of this start: 2 of 43
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Crosby_37 (BH), Marky_37 (BH),

Start 27:

- Found in 3 of 49 (6.1%) of genes in pham
- Manual Annotations of this start: 3 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EhyElimayoE_120 (BM), Kradal_119 (BM), Satis_119 (BM),

Start 28:

- Found in 5 of 49 (10.2%) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 60.0% of time when present
- Phage (with cluster) where this start called: JustBecause_117 (BM), Nirvana_130 (BM), pZL12_43c (singleton),

Start 29:

- Found in 11 of 49 (22.4%) of genes in pham
- Manual Annotations of this start: 8 of 43
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Araceli_37 (BH), Bogota_38 (BH), Intolerant_36 (BH), JackieB_36 (BH), LazerLemon_37 (BH), Microdon_36 (BH), Stuff_37 (BH), UNTPL_38 (BH),

Start 31:

- Found in 3 of 49 (6.1%) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Petra_23 (CV),

Summary by clusters:

There are 8 clusters represented in this pham: singleton, BM, BH, CV, DG1, DA, DS, CT,

Info for manual annotations of cluster BH:

- Start number 25 was manually annotated 1 time for cluster BH.
- Start number 26 was manually annotated 2 times for cluster BH.
- Start number 29 was manually annotated 8 times for cluster BH.

Info for manual annotations of cluster BM:

- Start number 22 was manually annotated 2 times for cluster BM.
- Start number 27 was manually annotated 3 times for cluster BM.
- Start number 28 was manually annotated 1 time for cluster BM.

Info for manual annotations of cluster CT:

- Start number 20 was manually annotated 2 times for cluster CT.
- Start number 21 was manually annotated 8 times for cluster CT.

Info for manual annotations of cluster CV:

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

Info for manual annotations of cluster DA:

- Start number 23 was manually annotated 2 times for cluster DA.

Info for manual annotations of cluster DG1:

- Start number 21 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DS:

- Start number 17 was manually annotated 1 time for cluster DS.
- Start number 18 was manually annotated 4 times for cluster DS.

Gene Information:

Gene: Araceli_37 Start: 28758, Stop: 29129, Start Num: 29

Candidate Starts for Araceli_37:

(Start: 25 @28749 has 1 MA's), (Start: 26 @28752 has 2 MA's), (Start: 29 @28758 has 8 MA's), (33, 28782), (39, 28806), (45, 28833), (47, 28839), (53, 28872), (55, 28887), (59, 28908), (61, 28926), (67, 28962), (75, 29016), (76, 29019), (81, 29046), (87, 29079),

Gene: Beyoncage_30 Start: 27124, Stop: 27528, Start Num: 21

Candidate Starts for Beyoncage_30:

(1, 26074), (2, 26161), (3, 26269), (4, 26425), (5, 26452), (6, 26536), (8, 26887), (9, 26902), (10, 26923), (13, 26995), (Start: 21 @27124 has 16 MA's), (37, 27196), (38, 27199), (47, 27235), (54, 27280), (69, 27367), (91, 27493), (92, 27496),

Gene: BigChungus_21 Start: 19097, Stop: 19450, Start Num: 20

Candidate Starts for BigChungus_21:

(Start: 20 @19097 has 2 MA's), (Start: 21 @19100 has 16 MA's), (30, 19127), (46, 19202), (54, 19250), (56, 19259), (65, 19313), (82, 19412), (85, 19430),

Gene: BiteSize_30 Start: 27124, Stop: 27528, Start Num: 21

Candidate Starts for BiteSize_30:

(1, 26074), (2, 26161), (3, 26269), (4, 26425), (5, 26452), (6, 26536), (8, 26887), (9, 26902), (10, 26923), (13, 26995), (Start: 21 @27124 has 16 MA's), (37, 27196), (38, 27199), (47, 27235), (54, 27280), (69, 27367), (91, 27493), (92, 27496),

Gene: BlueNGold_111 Start: 69226, Stop: 69600, Start Num: 18

Candidate Starts for BlueNGold_111:

(Start: 18 @69226 has 4 MA's), (37, 69301), (50, 69361), (53, 69373), (56, 69394), (61, 69424), (62, 69436), (76, 69517), (79, 69535), (90, 69589), (92, 69595),

Gene: Bogota_38 Start: 29151, Stop: 29522, Start Num: 29

Candidate Starts for Bogota_38:

(Start: 29 @29151 has 8 MA's), (33, 29175), (45, 29226), (47, 29232), (53, 29265), (55, 29280), (57, 29289), (59, 29301), (67, 29355), (75, 29409), (76, 29412), (81, 29439), (87, 29472), (94, 29505),

Gene: Boopy_112 Start: 69238, Stop: 69612, Start Num: 18

Candidate Starts for Boopy_112:

(Start: 18 @69238 has 4 MA's), (37, 69313), (50, 69373), (53, 69385), (56, 69406), (61, 69436), (62, 69448), (76, 69529), (79, 69547), (90, 69601), (92, 69607),

Gene: CherryonLim_23 Start: 19809, Stop: 20159, Start Num: 21

Candidate Starts for CherryonLim_23:

(Start: 20 @19806 has 2 MA's), (Start: 21 @19809 has 16 MA's), (46, 19911), (54, 19959), (56, 19968), (60, 19986), (65, 20022), (82, 20121), (85, 20139),

Gene: Crosby_37 Start: 28891, Stop: 29268, Start Num: 26

Candidate Starts for Crosby_37:

(Start: 25 @28888 has 1 MA's), (Start: 26 @28891 has 2 MA's), (Start: 29 @28897 has 8 MA's), (33, 28921), (45, 28972), (47, 28978), (53, 29011), (55, 29026), (59, 29047), (67, 29101), (75, 29155), (76, 29158), (81, 29185), (85, 29206), (89, 29227), (94, 29251),

Gene: Djokovic_30 Start: 27123, Stop: 27527, Start Num: 21

Candidate Starts for Djokovic_30:

(1, 26073), (2, 26160), (3, 26268), (4, 26424), (5, 26451), (6, 26535), (8, 26886), (9, 26901), (10, 26922), (13, 26994), (Start: 21 @27123 has 16 MA's), (37, 27195), (38, 27198), (47, 27234), (54, 27279), (69, 27366), (91, 27492), (92, 27495),

Gene: EhyElimayoE_120 Start: 78634, Stop: 79011, Start Num: 27

Candidate Starts for EhyElimayoE_120:

(14, 78541), (15, 78544), (Start: 27 @78634 has 3 MA's), (52, 78745), (53, 78751), (59, 78787), (62, 78817), (74, 78892), (76, 78898), (79, 78916), (80, 78919), (86, 78946),

Gene: Elinal_23 Start: 19050, Stop: 19403, Start Num: 21

Candidate Starts for Elinal_23:

(Start: 21 @19050 has 16 MA's), (30, 19080), (41, 19131), (54, 19203), (56, 19212), (65, 19266), (70, 19296), (82, 19365), (85, 19383),

Gene: Feastonyeet_21 Start: 19097, Stop: 19450, Start Num: 20

Candidate Starts for Feastonyeet_21:

(Start: 20 @19097 has 2 MA's), (Start: 21 @19100 has 16 MA's), (30, 19127), (46, 19202), (54, 19250), (56, 19259), (65, 19313), (82, 19412), (85, 19430),

Gene: Forza_112 Start: 69154, Stop: 69528, Start Num: 18

Candidate Starts for Forza_112:

(Start: 18 @69154 has 4 MA's), (37, 69229), (50, 69289), (53, 69301), (56, 69322), (61, 69352), (62, 69364), (76, 69445), (79, 69463), (90, 69517), (92, 69523),

Gene: Frankenweenie_129 Start: 83529, Stop: 83927, Start Num: 22

Candidate Starts for Frankenweenie_129:

(Start: 22 @83529 has 2 MA's), (Start: 28 @83550 has 1 MA's), (32, 83574), (49, 83646), (52, 83661), (54, 83679), (62, 83733), (71, 83787), (76, 83814),

Gene: Ghobes_21 Start: 18551, Stop: 18925, Start Num: 23

Candidate Starts for Ghobes_21:

(Start: 23 @18551 has 2 MA's), (Start: 31 @18566 has 1 MA's), (34, 18593), (35, 18599), (51, 18668), (52, 18671), (55, 18692), (64, 18749), (68, 18773), (75, 18818), (79, 18839), (80, 18842), (87, 18881),

Gene: Henococcus_37 Start: 28765, Stop: 29145, Start Num: 25

Candidate Starts for Henococcus_37:

(Start: 25 @28765 has 1 MA's), (Start: 26 @28768 has 2 MA's), (Start: 29 @28774 has 8 MA's), (33, 28798), (39, 28822), (45, 28849), (47, 28855), (53, 28888), (55, 28903), (59, 28924), (61, 28942), (67, 28978), (75, 29032), (76, 29035), (81, 29062), (87, 29095),

Gene: Intolerant_36 Start: 28786, Stop: 29157, Start Num: 29

Candidate Starts for Intolerant_36:

(Start: 29 @28786 has 8 MA's), (33, 28810), (45, 28861), (47, 28867), (53, 28900), (55, 28915), (57, 28924), (59, 28936), (67, 28990), (75, 29044), (76, 29047), (81, 29074), (85, 29095), (89, 29116), (94, 29140),

Gene: JackieB_36 Start: 28612, Stop: 28983, Start Num: 29

Candidate Starts for JackieB_36:

(Start: 25 @28603 has 1 MA's), (Start: 26 @28606 has 2 MA's), (Start: 29 @28612 has 8 MA's), (33, 28636), (39, 28660), (45, 28687), (47, 28693), (53, 28726), (55, 28741), (59, 28762), (61, 28780), (67, 28816), (75, 28870), (76, 28873), (81, 28900), (87, 28933),

Gene: JustBecause_117 Start: 77702, Stop: 78079, Start Num: 28

Candidate Starts for JustBecause_117:

(Start: 22 @77681 has 2 MA's), (Start: 28 @77702 has 1 MA's), (32, 77726), (49, 77798), (52, 77813), (54, 77831), (62, 77885), (71, 77939), (77, 77975), (80, 77987),

Gene: KayGee_21 Start: 19050, Stop: 19403, Start Num: 21

Candidate Starts for KayGee_21:

(Start: 21 @19050 has 16 MA's), (30, 19080), (41, 19131), (54, 19203), (56, 19212), (65, 19266), (70, 19296), (82, 19365), (85, 19383),

Gene: Kela_118 Start: 77561, Stop: 77959, Start Num: 22

Candidate Starts for Kela_118:

(Start: 22 @77561 has 2 MA's), (Start: 28 @77582 has 1 MA's), (32, 77606), (49, 77678), (52, 77693), (54, 77711), (62, 77765), (71, 77819), (77, 77855), (80, 77867),

Gene: Kradal_119 Start: 78631, Stop: 79008, Start Num: 27

Candidate Starts for Kradal_119:

(11, 78439), (14, 78538), (15, 78541), (Start: 27 @78631 has 3 MA's), (52, 78742), (53, 78748), (59, 78784), (62, 78814), (74, 78889), (76, 78895), (79, 78913), (80, 78916), (86, 78943),

Gene: Lauer_21 Start: 19099, Stop: 19452, Start Num: 21

Candidate Starts for Lauer_21:

(Start: 21 @19099 has 16 MA's), (30, 19129), (41, 19180), (54, 19252), (56, 19261), (65, 19315), (70, 19345), (82, 19414), (85, 19432),

Gene: LazerLemon_37 Start: 29273, Stop: 29647, Start Num: 29

Candidate Starts for LazerLemon_37:

(7, 28925), (12, 29087), (Start: 25 @29264 has 1 MA's), (Start: 29 @29273 has 8 MA's), (42, 29330), (43, 29336), (61, 29441), (63, 29456), (67, 29477), (72, 29513), (75, 29531), (76, 29534), (77, 29543), (81, 29561), (84, 29570), (85, 29582),

Gene: LilyPad_32 Start: 27930, Stop: 28334, Start Num: 21

Candidate Starts for LilyPad_32:

(Start: 21 @27930 has 16 MA's), (41, 28014), (48, 28041), (55, 28089), (56, 28095), (58, 28101), (65, 28149), (66, 28155), (69, 28173), (71, 28191), (78, 28233), (88, 28284),

Gene: MAnor_22 Start: 19067, Stop: 19420, Start Num: 21

Candidate Starts for MAnor_22:

(Start: 20 @19064 has 2 MA's), (Start: 21 @19067 has 16 MA's), (30, 19097), (46, 19172), (54, 19220), (56, 19229), (60, 19247), (65, 19283), (69, 19307), (82, 19382), (85, 19400),

Gene: Madi_30 Start: 27124, Stop: 27528, Start Num: 21

Candidate Starts for Madi_30:

(13, 26995), (Start: 21 @27124 has 16 MA's), (37, 27196), (38, 27199), (47, 27235), (54, 27280), (60, 27307), (69, 27367), (88, 27478), (91, 27493),

Gene: Mareelih_110 Start: 68656, Stop: 69030, Start Num: 18

Candidate Starts for Mareelih_110:

(Start: 18 @68656 has 4 MA's), (37, 68731), (50, 68791), (53, 68803), (56, 68824), (61, 68854), (62, 68866), (76, 68947), (79, 68965), (90, 69019), (92, 69025),

Gene: Marky_37 Start: 28616, Stop: 28993, Start Num: 26

Candidate Starts for Marky_37:

(Start: 25 @28613 has 1 MA's), (Start: 26 @28616 has 2 MA's), (Start: 29 @28622 has 8 MA's), (45, 28697), (47, 28703), (50, 28724), (53, 28736), (55, 28751), (59, 28772), (67, 28826), (75, 28880), (76, 28883), (77, 28892), (81, 28910), (84, 28919), (85, 28931), (87, 28943), (89, 28952),

Gene: Mayweather_23 Start: 19682, Stop: 20035, Start Num: 21

Candidate Starts for Mayweather_23:

(Start: 20 @19679 has 2 MA's), (Start: 21 @19682 has 16 MA's), (30, 19712), (46, 19787), (54, 19835), (56, 19844), (60, 19862), (65, 19898), (69, 19922), (82, 19997), (85, 20015),

Gene: Microdon_36 Start: 28594, Stop: 28965, Start Num: 29

Candidate Starts for Microdon_36:

(19, 28552), (Start: 29 @28594 has 8 MA's), (33, 28618), (45, 28669), (47, 28675), (53, 28708), (55, 28723), (57, 28732), (59, 28744), (67, 28798), (75, 28852), (76, 28855), (85, 28903), (89, 28924), (94, 28948),

Gene: Nirvana_130 Start: 81947, Stop: 82324, Start Num: 28

Candidate Starts for Nirvana_130:

(Start: 22 @81926 has 2 MA's), (Start: 28 @81947 has 1 MA's), (32, 81971), (49, 82043), (52, 82058), (54, 82076), (62, 82130), (71, 82184), (76, 82211),

Gene: Petra_23 Start: 19911, Stop: 20354, Start Num: 31

Candidate Starts for Petra_23:

(16, 19824), (Start: 21 @19881 has 16 MA's), (Start: 31 @19911 has 1 MA's), (37, 19950), (54, 20034), (58, 20049), (68, 20118), (79, 20184), (83, 20199), (85, 20214), (87, 20226), (95, 20292),

Gene: Pons_22 Start: 19057, Stop: 19407, Start Num: 21

Candidate Starts for Pons_22:

(Start: 20 @19054 has 2 MA's), (Start: 21 @19057 has 16 MA's), (46, 19159), (54, 19207), (56, 19216), (60, 19234), (65, 19270), (82, 19369), (85, 19387),

Gene: PotPie_23 Start: 19916, Stop: 20269, Start Num: 21

Candidate Starts for PotPie_23:

(Start: 21 @19916 has 16 MA's), (30, 19946), (46, 20021), (54, 20069), (56, 20078), (65, 20132), (82, 20231), (85, 20249),

Gene: Sapo_20 Start: 18495, Stop: 18878, Start Num: 23

Candidate Starts for Sapo_20:

(Start: 23 @18495 has 2 MA's), (Start: 31 @18525 has 1 MA's), (36, 18561), (51, 18627), (52, 18630), (54, 18648), (68, 18732), (74, 18774), (87, 18840), (94, 18867),

Gene: Satis_119 Start: 78627, Stop: 79004, Start Num: 27

Candidate Starts for Satis_119:

(11, 78435), (14, 78534), (15, 78537), (Start: 27 @78627 has 3 MA's), (52, 78738), (53, 78744), (59, 78780), (62, 78810), (74, 78885), (76, 78891), (79, 78909), (80, 78912), (86, 78939),

Gene: SheckWes_21 Start: 19054, Stop: 19404, Start Num: 21

Candidate Starts for SheckWes_21:

(Start: 20 @19051 has 2 MA's), (Start: 21 @19054 has 16 MA's), (30, 19081), (46, 19156), (54, 19204), (56, 19213), (60, 19231), (65, 19267), (70, 19297), (82, 19366), (85, 19384),

Gene: Sienna_30 Start: 27124, Stop: 27528, Start Num: 21

Candidate Starts for Sienna_30:

(13, 26995), (Start: 21 @27124 has 16 MA's), (37, 27196), (38, 27199), (47, 27235), (54, 27280), (60, 27307), (69, 27367), (88, 27478), (91, 27493),

Gene: Sixama_110 Start: 68663, Stop: 69067, Start Num: 17

Candidate Starts for Sixama_110:

(Start: 17 @68663 has 1 MA's), (Start: 18 @68681 has 4 MA's), (37, 68765), (59, 68873), (65, 68912),

Gene: Stuff_37 Start: 29069, Stop: 29440, Start Num: 29

Candidate Starts for Stuff_37:

(Start: 29 @29069 has 8 MA's), (33, 29093), (39, 29117), (45, 29144), (47, 29150), (53, 29183), (55, 29198), (57, 29207), (59, 29219), (67, 29273), (75, 29327), (76, 29330), (85, 29378), (87, 29390), (94, 29423),

Gene: SummitAcademy_21 Start: 19131, Stop: 19481, Start Num: 21

Candidate Starts for SummitAcademy_21:

(Start: 20 @19128 has 2 MA's), (Start: 21 @19131 has 16 MA's), (30, 19158), (46, 19233), (54, 19281), (56, 19290), (65, 19344), (82, 19443), (85, 19461),

Gene: Suzy_30 Start: 28265, Stop: 28669, Start Num: 21

Candidate Starts for Suzy_30:

(9, 28043), (13, 28136), (Start: 21 @28265 has 16 MA's), (37, 28337), (38, 28340), (44, 28367), (47, 28376), (54, 28421), (69, 28508), (91, 28634), (92, 28637),

Gene: Terapin_31 Start: 27125, Stop: 27529, Start Num: 21

Candidate Starts for Terapin_31:

(1, 26075), (2, 26162), (3, 26270), (4, 26426), (5, 26453), (6, 26537), (8, 26888), (9, 26903), (10, 26924), (13, 26996), (Start: 21 @27125 has 16 MA's), (37, 27197), (38, 27200), (47, 27236), (54, 27281), (69, 27368), (91, 27494), (92, 27497),

Gene: UNTPL_38 Start: 29132, Stop: 29503, Start Num: 29

Candidate Starts for UNTPL_38:

(Start: 29 @29132 has 8 MA's), (33, 29156), (45, 29207), (47, 29213), (53, 29246), (55, 29261), (57, 29270), (59, 29282), (67, 29336), (75, 29390), (76, 29393), (81, 29420), (87, 29453), (94, 29486),

Gene: Vine_23 Start: 20063, Stop: 20416, Start Num: 21

Candidate Starts for Vine_23:

(Start: 21 @20063 has 16 MA's), (30, 20093), (41, 20144), (54, 20216), (56, 20225), (65, 20279), (70, 20309), (82, 20378), (85, 20396),

Gene: pZL12_43c Start: 31467, Stop: 31108, Start Num: 28

Candidate Starts for pZL12_43c:

(Start: 28 @31467 has 1 MA's), (47, 31383), (56, 31329), (59, 31317), (60, 31314), (81, 31179), (93, 31119),

Gene: phiAsp2_67 Start: 54403, Stop: 54783, Start Num: 24

Candidate Starts for phiAsp2_67:

(24, 54403), (40, 54466), (56, 54544), (65, 54598), (73, 54655), (93, 54757),