

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 303430 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303430 has 52 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Causa_4
- Track 2 : StAugustine_4
- Track 3 : Blocker23_2, PrinceCharming_2
- Track 4 : Godines_2, Ares_2, Opia_2, Allegro_2, Kolhan_2, Lephleur_2, Bananafish_2, Kheth_2, Tres_2, Calamitous_2, Sabella_2, Holeinone_2, TA17A_2, MasterPo_2, Laurie_2, LilSmirk_2
- Track 5 : LizLemon_2, Boyle_2, Rosebush_2, FrenchFry_2, Coffee_2, Rhinoforte_2, Glass_2, Lars_2, Brownie5_2, Kaleb_2, West99_2
- Track 6 : Phantasmagoria_2
- Track 7 : Hedgerow_2
- Track 8 : ItsyBitsy1_2
- Track 9 : Qyrzula_2
- Track 10 : Eaglehorse_2
- Track 11 : Arbiter_2
- Track 12 : Vic9_00002
- Track 13 : Tinciduntolum_2
- Track 14 : Faze9_2
- Track 15 : Saguaro_2
- Track 16 : Rinkes_3
- Track 17 : PenguinLover67_2
- Track 18 : Funsized_3
- Track 19 : Knocker_3
- Track 20 : Quesadilla_2
- Track 21 : CRB2_2
- Track 22 : Sour_2
- Track 23 : Maruru_88
- Track 24 : Sonali_87
- Track 25 : Sunshine23_90
- Track 26 : Finch_211

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

The start number called the most often in the published annotations is 10, it was called in 39 of the 50 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Allegro_2, Arbiter_2, Ares_2, Bananafish_2, Blocker23_2, Boyle_2, Brownie5_2, CRB2_2, Calamitous_2, Coffee_2, Eaglehorse_2, FrenchFry_2, Glass_2, Godines_2, Hedgerow_2, Holeinone_2, ItsyBitsy1_2, Kaleb_2, Kheth_2, Kolhan_2, Lars_2, Laurie_2, Lephleur_2, LilSmirk_2, LizLemon_2, MasterPo_2, Opia_2, PenguinLover67_2, Phantasmagoria_2, PrinceCharming_2, Quesadilla_2, Qyrzula_2, Rhinoforte_2, Rosebush_2, Sabella_2, Sour_2, TA17A_2, Tres_2, Vic9_00002, West99_2,

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

- Faze9_2, Tinciduntolum_2,

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

- Causa_4, Finch_211, Funsized_3, Knocker_3, Maruru_88, Rinkes_3, Saguaro_2, Sonali_87, StAugustine_4, Sunshine23_90,

Summary by start number:

Start 10:

- Found in 42 of 52 (80.8%) of genes in pham
- Manual Annotations of this start: 39 of 50
- Called 95.2% of time when present
- Phage (with cluster) where this start called: Allegro_2 (B2), Arbiter_2 (B2), Ares_2 (B2), Bananafish_2 (B2), Blocker23_2 (B2), Boyle_2 (B2), Brownie5_2 (B2), CRB2_2 (B9), Calamitous_2 (B2), Coffee_2 (B2), Eaglehorse_2 (B2), FrenchFry_2 (B2), Glass_2 (B2), Godines_2 (B2), Hedgerow_2 (B2), Holeinone_2 (B2), ItsyBitsy1_2 (B2), Kaleb_2 (B2), Kheth_2 (B2), Kolhan_2 (B2), Lars_2 (B2), Laurie_2 (B2), Lephleur_2 (B2), LilSmirk_2 (B2), LizLemon_2 (B2), MasterPo_2 (B2), Opia_2 (B2), PenguinLover67_2 (B9), Phantasmagoria_2 (B2), PrinceCharming_2 (B2), Quesadilla_2 (B9), Qyrzula_2 (B2), Rhinoforte_2 (B2), Rosebush_2 (B2), Sabella_2 (B2), Sour_2 (DR), TA17A_2 (B2), Tres_2 (B2), Vic9_00002 (B2), West99_2 (B2),

Start 11:

- Found in 16 of 52 (30.8%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Tinciduntolum_2 (B2),

Start 12:

- Found in 16 of 52 (30.8%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Faze9_2 (B2),

Start 14:

- Found in 2 of 52 (3.8%) of genes in pham
- Manual Annotations of this start: 2 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Causa_4 (AI), StAugustine_4 (AI),

Start 16:

- Found in 5 of 52 (9.6%) of genes in pham

- Manual Annotations of this start: 4 of 50
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Knocker_3 (B9), Maruru_88 (FG), Rinkes_3 (B9), Sonali_87 (FG), Sunshine23_90 (FG),

Start 17:

- Found in 20 of 52 (38.5%) of genes in pham
- Manual Annotations of this start: 2 of 50
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Finch_211 (singleton), Saguaro_2 (B7),

Start 18:

- Found in 2 of 52 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 50
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Funsized_3 (B9),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, AI, B7, B2, FG, DR, B9,

Info for manual annotations of cluster AI:

- Start number 14 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster B2:

- Start number 10 was manually annotated 35 times for cluster B2.
- Start number 11 was manually annotated 1 time for cluster B2.
- Start number 12 was manually annotated 1 time for cluster B2.

Info for manual annotations of cluster B7:

- Start number 17 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 10 was manually annotated 3 times for cluster B9.
- Start number 16 was manually annotated 2 times for cluster B9.
- Start number 18 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster DR:

- Start number 10 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster FG:

- Start number 16 was manually annotated 2 times for cluster FG.

Gene Information:

Gene: Allegro_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Allegro_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Arbiter_2 Start: 789, Stop: 1919, Start Num: 10

Candidate Starts for Arbiter_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (112, 1767), (120, 1884),

Gene: Ares_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Ares_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Bananafish_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Bananafish_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Blocker23_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Blocker23_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Boyle_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Boyle_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Brownie5_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Brownie5_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: CRB2_2 Start: 630, Stop: 1619, Start Num: 10

Candidate Starts for CRB2_2:

(Start: 10 @630 has 39 MA's), (35, 840), (38, 882), (40, 900), (42, 909), (46, 945), (49, 969), (52, 996), (53, 1020), (56, 1038), (58, 1071), (59, 1092), (63, 1131), (64, 1158), (66, 1173), (72, 1215), (78, 1278), (81, 1293), (84, 1326), (90, 1356), (93, 1380), (100, 1440), (102, 1452), (109, 1488), (114, 1524), (118, 1566),

Gene: Calamitous_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Calamitous_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Causa_4 Start: 1633, Stop: 2544, Start Num: 14

Candidate Starts for Causa_4:

(2, 1321), (6, 1381), (Start: 14 @1633 has 2 MA's), (21, 1693), (22, 1705), (39, 1891), (40, 1906), (53, 2026), (57, 2047), (58, 2077), (65, 2167), (74, 2257), (87, 2344), (94, 2395), (102, 2455), (106, 2476), (108, 2485), (110, 2494),

Gene: Coffee_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Coffee_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Eaglehorse_2 Start: 789, Stop: 1847, Start Num: 10

Candidate Starts for Eaglehorse_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (113, 1680), (122, 1812),

Gene: Faze9_2 Start: 831, Stop: 1946, Start Num: 12

Candidate Starts for Faze9_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Finch_211 Start: 122885, Stop: 123829, Start Num: 17

Candidate Starts for Finch_211:

(Start: 17 @122885 has 2 MA's), (19, 122912), (34, 123080), (35, 123086), (38, 123128), (46, 123191), (49, 123215), (50, 123224), (51, 123239), (52, 123242), (53, 123272), (58, 123323), (59, 123344), (62, 123368), (63, 123383), (66, 123425), (73, 123470), (93, 123632), (96, 123644), (98, 123692), (99, 123701), (103, 123728),

Gene: FrenchFry_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for FrenchFry_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Funsized_3 Start: 1714, Stop: 2565, Start Num: 18

Candidate Starts for Funsized_3:

(15, 1687), (Start: 18 @1714 has 1 MA's), (20, 1741), (22, 1756), (24, 1774), (35, 1894), (38, 1936), (41, 1969), (42, 1972), (43, 1978), (51, 2053), (63, 2185), (75, 2305), (79, 2335), (83, 2377), (86, 2389), (88, 2395), (89, 2401), (91, 2416), (95, 2449),

Gene: Glass_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Glass_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Godines_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Godines_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Hedgerow_2 Start: 789, Stop: 1928, Start Num: 10

Candidate Starts for Hedgerow_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (122, 1893),

Gene: Holeinone_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Holeinone_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: ItsyBitsy1_2 Start: 789, Stop: 1820, Start Num: 10

Candidate Starts for ItsyBitsy1_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (112, 1668), (122, 1785),

Gene: Kaleb_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Kaleb_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Kheth_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Kheth_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Knocker_3 Start: 1699, Stop: 2547, Start Num: 16

Candidate Starts for Knocker_3:

(3, 1417), (4, 1435), (5, 1438), (8, 1537), (9, 1564), (Start: 16 @1699 has 4 MA's), (20, 1753), (24, 1786), (25, 1789), (27, 1834), (35, 1906), (42, 1981), (43, 1987), (51, 2062), (62, 2179), (63, 2194), (70, 2272), (79, 2344), (80, 2347), (82, 2365), (84, 2389), (88, 2404), (89, 2410), (91, 2425), (97, 2494), (101, 2536),

Gene: Kolhan_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Kolhan_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Lars_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Lars_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Laurie_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Laurie_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Lephleur_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Lephleur_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: LilSmirk_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for LilSmirk_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: LizLemon_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for LizLemon_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Maruru_88 Start: 53421, Stop: 54311, Start Num: 16

Candidate Starts for Maruru_88:

(Start: 16 @53421 has 4 MA's), (23, 53514), (28, 53574), (29, 53586), (31, 53598), (38, 53682), (54, 53829), (61, 53913), (67, 53985), (68, 54009), (92, 54183),

Gene: MasterPo_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for MasterPo_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Opia_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Opia_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: PenguinLover67_2 Start: 630, Stop: 1619, Start Num: 10

Candidate Starts for PenguinLover67_2:

(Start: 10 @630 has 39 MA's), (24, 720), (33, 825), (35, 840), (38, 882), (42, 909), (46, 945), (49, 969), (53, 1020), (56, 1038), (58, 1071), (60, 1107), (63, 1131), (64, 1158), (66, 1173), (72, 1215), (74, 1248), (78, 1278), (84, 1326), (90, 1356), (93, 1380), (100, 1440), (102, 1452), (109, 1488), (114, 1524), (118, 1566),

Gene: Phantasmagoria_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Phantasmagoria_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (76, 1407), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: PrinceCharming_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for PrinceCharming_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Quesadilla_2 Start: 630, Stop: 1634, Start Num: 10

Candidate Starts for Quesadilla_2:

(Start: 10 @630 has 39 MA's), (24, 720), (33, 825), (35, 840), (38, 882), (42, 909), (46, 945), (49, 969), (53, 1020), (58, 1071), (59, 1092), (63, 1131), (64, 1158), (74, 1248), (78, 1278), (81, 1293), (84, 1326), (90, 1356), (93, 1380), (100, 1458), (102, 1470), (108, 1500), (114, 1539), (118, 1581),

Gene: Qyrzula_2 Start: 789, Stop: 1919, Start Num: 10

Candidate Starts for Qyrzula_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (112, 1767), (118, 1824), (120, 1884),

Gene: Rhinoforte_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Rhinoforte_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Rinkes_3 Start: 1688, Stop: 2560, Start Num: 16

Candidate Starts for Rinkes_3:

(3, 1406), (4, 1424), (8, 1526), (9, 1553), (Start: 16 @1688 has 4 MA's), (Start: 18 @1715 has 1 MA's), (20, 1742), (22, 1757), (35, 1895), (36, 1919), (42, 1973), (43, 1979), (45, 2000), (47, 2018), (51, 2054), (62, 2171), (63, 2186), (75, 2306), (79, 2336), (83, 2378), (86, 2390), (88, 2396), (89, 2402), (91, 2417), (95, 2450),

Gene: Rosebush_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for Rosebush_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),

Gene: Sabella_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Sabella_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Saguaro_2 Start: 732, Stop: 1823, Start Num: 17

Candidate Starts for Saguaro_2:

(1, 333), (Start: 17 @732 has 2 MA's), (30, 882), (33, 918), (35, 933), (39, 978), (42, 1002), (46, 1038), (48, 1050), (53, 1113), (55, 1125), (56, 1131), (58, 1164), (81, 1386), (84, 1419), (85, 1422), (96, 1491), (98, 1542), (105, 1590), (113, 1644), (121, 1770),

Gene: Sonali_87 Start: 54040, Stop: 54930, Start Num: 16

Candidate Starts for Sonali_87:

(Start: 16 @54040 has 4 MA's), (23, 54133), (29, 54205), (31, 54217), (37, 54286), (38, 54301), (40, 54325), (54, 54448), (61, 54532), (68, 54628), (92, 54802),

Gene: Sour_2 Start: 612, Stop: 1685, Start Num: 10

Candidate Starts for Sour_2:

(Start: 10 @612 has 39 MA's), (26, 735), (35, 825), (38, 867), (42, 894), (50, 963), (53, 1005), (56, 1023), (58, 1056), (61, 1095), (63, 1116), (71, 1197), (72, 1200), (73, 1203), (77, 1245), (86, 1320), (104, 1476), (107, 1488), (111, 1521), (115, 1548), (116, 1557), (117, 1575), (119, 1602),

Gene: StAugustine_4 Start: 1624, Stop: 2535, Start Num: 14

Candidate Starts for StAugustine_4:

(2, 1321), (6, 1381), (Start: 14 @1624 has 2 MA's), (21, 1684), (22, 1696), (39, 1882), (40, 1897), (53, 2017), (57, 2038), (58, 2068), (61, 2107), (65, 2158), (74, 2248), (87, 2335), (94, 2386), (102, 2446), (106, 2467), (108, 2476), (110, 2485),

Gene: Sunshine23_90 Start: 53776, Stop: 54666, Start Num: 16

Candidate Starts for Sunshine23_90:

(Start: 16 @53776 has 4 MA's), (23, 53869), (29, 53941), (31, 53953), (37, 54022), (38, 54037), (54, 54184), (61, 54268), (67, 54340), (68, 54364), (92, 54538),

Gene: TA17A_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for TA17A_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Tinciduntolum_2 Start: 819, Stop: 1574, Start Num: 11

Candidate Starts for Tinciduntolum_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542),

Gene: Tres_2 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Tres_2:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: Vic9_00002 Start: 789, Stop: 1829, Start Num: 10

Candidate Starts for Vic9_00002:

(7, 714), (Start: 10 @789 has 39 MA's), (32, 966), (35, 990), (38, 1032), (40, 1050), (42, 1059), (44, 1068), (51, 1143), (53, 1170), (55, 1182), (56, 1188), (58, 1221), (63, 1281), (69, 1353), (74, 1398), (77, 1410), (81, 1443), (84, 1476), (85, 1479), (90, 1506), (122, 1794),

Gene: West99_2 Start: 789, Stop: 1946, Start Num: 10

Candidate Starts for West99_2:

(7, 714), (Start: 10 @789 has 39 MA's), (Start: 11 @819 has 1 MA's), (Start: 12 @831 has 1 MA's), (13, 855), (Start: 17 @888 has 2 MA's), (32, 1065), (35, 1089), (38, 1131), (40, 1149), (42, 1158), (44, 1167), (53, 1269), (55, 1281), (56, 1287), (58, 1320), (63, 1380), (69, 1452), (74, 1497), (77, 1509), (81, 1542), (84, 1575), (85, 1578), (90, 1605), (113, 1779), (122, 1911),