Pham 347861


1: SharkTale_5
2: YungMoney_5
3: Clown_5
4: Rofo_2
5: Affeca_2
6: Sedona_2 + 1
7: Charming_2 + 1
8: BobBob_2
9: Fosterous_2
10: Angelicage_2
11: Nordenberg_2
12: Vivi2_2
13: Ali17_2
14: Zipp_2
15: DoctorFroggo_2 + 2
16: Sampson_2 + 4
17: ViaConlectus_2
18: Phrampa_202
19: Dodo_74
20: PauloDiaboli_72
21: A3Wally_73
22: Zooman_60
23: Erasmago_68
24: Big4_64
25: Cece_59
26: Pumpernickel_75

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 347861 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347861 has 34 members, 2 are drafts.

Phages represented in each track:
- Track 1 : SharkTale_5
- Track 2 : YungMoney_5
- Track 3 : Clown_5
- Track 4 : Rofo_2
- Track 5 : Affeca_2
- Track 6 : Sedona_2, Keitabear_2
- Track 7 : Charming_2, Tangent_2
- Track 8 : BobBob_2
- Track 9 : Fosterous_2
- Track 10 : Angelicage_2
- Track 11 : Nordenberg_2
- Track 12 : Vivi2_2
- Track 13 : Ali17_2
- Track 14 : Zipp_2
- Track 15 : DoctorFroggo_2, Delrey21_2, Verity_2
- Track 16 : Sampson_2, APunk_2, Scioto_2, Natkenzie_2, Abblin_2
- Track 17 : ViaConlectus_2
- Track 18 : Phrampa_202
- Track 19 : Dodo_74
- Track 20 : PauloDiaboli_72
- Track 21 : A3Wally_73
- Track 22 : Zooman_60
- Track 23 : Erasmago_68
- Track 24 : Big4_64
- Track 25 : Cece_59
- Track 26 : Pumpernickel_75

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

The start number called the most often in the published annotations is 5, it was called in 12 of the 32 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• APunk_2, Abblin_2, Clown_5, Delrey21_2, DoctorFroggo_2, Natkenzie_2, Sampson_2, Scioto_2, SharkTale_5, Verity_2, ViaConlectus_2, YungMoney_5, Zipp_2,

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

Genes that do not have the "Most Annotated" start:
• A3Wally_73, Affeca_2, Ali17_2, Angelicage_2, Big4_64, BobBob_2, Cece_59, Charming_2, Dodo_74, Erasmago_68, Fosterous_2, Keitabear_2, Nordenberg_2, PauloDiaboli_72, Phrampa_202, Pumpernickel_75, Rofo_2, Sedona_2, Tangent_2, Vivi2_2, Zooman_60,

Summary by start number:

Start 5:
• Found in 13 of 34 (38.2%) of genes in pham
• Manual Annotations of this start: 12 of 32
• Called 100.0% of time when present
• Phage (with cluster) where this start called: APunk_2 (DE4), Abblin_2 (DE4), Clown_5 (DC2), Delrey21_2 (DE4), DoctorFroggo_2 (DE4), Natkenzie_2 (DE4), Sampson_2 (DE4), Scioto_2 (DE4), SharkTale_5 (DC1), Verity_2 (DE4), ViaConlectus_2 (DE4), YungMoney_5 (DC1), Zipp_2 (DE4),

Start 6:
• Found in 1 of 34 (2.9%) of genes in pham
• Manual Annotations of this start: 1 of 32
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ali17_2 (DE2),

Start 7:
• Found in 11 of 34 (32.4%) of genes in pham
• Manual Annotations of this start: 11 of 32
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Affeca_2 (DE1), Angelicage_2 (DE1), BobBob_2 (DE1), Charming_2 (DE1), Fosterous_2 (DE1), Keitabear_2 (DE1), Nordenberg_2 (DE1), Rofo_2 (DE1), Sedona_2 (DE1), Tangent_2 (DE1), Vivi2_2 (DE1),

Start 9:
• Found in 4 of 34 (11.8%) of genes in pham
• Manual Annotations of this start: 1 of 32
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Phrampa_202 (FC),

Start 16:
• Found in 1 of 34 (2.9%) of genes in pham
• Manual Annotations of this start: 1 of 32
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Pumpernickel_75 (GD4),

Start 21:
• Found in 7 of 34 (20.6%) of genes in pham

• Manual Annotations of this start: 5 of 32
• Called 85.7% of time when present
• Phage (with cluster) where this start called: A3Wally_73 (GD1), Big4_64 (GD2), Cece_59 (GD3), Dodo_74 (GD1), Erasmago_68 (GD2), Zooman_60 (GD2),

Start 24:
• Found in 33 of 34 (97.1%) of genes in pham
• Manual Annotations of this start: 1 of 32
• Called 3.0% of time when present
• Phage (with cluster) where this start called: PauloDiaboli_72 (GD1),

Summary by clusters:

There are 10 clusters represented in this pham: GD1, GD2, GD3, GD4, DE1, DE2, DE4, FC, DC2, DC1,

Info for manual annotations of cluster DC1:
•Start number 5 was manually annotated 1 time for cluster DC1.

Info for manual annotations of cluster DC2:
•Start number 5 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:
•Start number 7 was manually annotated 11 times for cluster DE1.

Info for manual annotations of cluster DE2:
•Start number 6 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DE4:
•Start number 5 was manually annotated 10 times for cluster DE4.

Info for manual annotations of cluster FC:
•Start number 9 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster GD1:
•Start number 21 was manually annotated 2 times for cluster GD1.
•Start number 24 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD2:
•Start number 21 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:
•Start number 21 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:
•Start number 16 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: A3Wally_73 Start: 23945, Stop: 26236, Start Num: 21
Candidate Starts for A3Wally_73:

(Start: 21 @23945 has 5 MA's), (Start: 24 @23987 has 1 MA's), (26, 23996), (43, 24173), (45, 24188), (69, 24395), (86, 24551), (87, 24554), (97, 24635), (113, 24788), (122, 24890), (139, 25016), (175, 25364), (176, 25370), (181, 25487), (186, 25532), (188, 25571), (196, 25631), (204, 25727), (211, 25781), (213, 25787), (215, 25814), (233, 25958), (240, 25979), (241, 25997),

Gene: APunk_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for APunk_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (33, 833), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (78, 1283), (83, 1346), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (110, 1580), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (187, 2462), (195, 2522), (207, 2636), (214, 2699), (215, 2705), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963),

Gene: Abblin_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Abblin_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (33, 833), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (78, 1283), (83, 1346), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (110, 1580), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (187, 2462), (195, 2522), (207, 2636), (214, 2699), (215, 2705), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963),

Gene: Affeca_2 Start: 514, Stop: 2901, Start Num: 7
Candidate Starts for Affeca_2:
(Start: 7 @514 has 11 MA's), (8, 520), (19, 652), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (38, 865), (40, 877), (54, 1006), (56, 1012), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (81, 1249), (84, 1264), (91, 1312), (131, 1639), (136, 1663), (146, 1738), (149, 1759), (150, 1777), (152, 1783), (160, 1855), (161, 1879), (174, 2023), (178, 2044), (182, 2176), (185, 2203), (186, 2215), (193, 2296), (195, 2308), (209, 2434), (210, 2452), (217, 2518), (219, 2527), (231, 2599), (234, 2620), (237, 2629), (242, 2659), (243, 2674), (249, 2725), (252, 2773), (254, 2791), (255, 2794), (258, 2821), (263, 2881),

Gene: Ali17_2 Start: 534, Stop: 3170, Start Num: 6
Candidate Starts for Ali17_2:
(Start: 6 @534 has 1 MA's), (17, 657), (18, 663), (19, 687), (20, 708), (22, 732), (23, 741), (Start: 24 @759 has 1 MA's), (25, 762), (33, 864), (36, 888), (42, 933), (44, 963), (48, 1020), (51, 1035), (52, 1038), (55, 1080), (62, 1149), (68, 1212), (78, 1314), (83, 1377), (90, 1428), (102, 1545), (104, 1560), (106, 1572), (110, 1611), (111, 1623), (112, 1629), (121, 1752), (125, 1779), (131, 1812), (134, 1836), (138, 1881), (144, 1920), (151, 1980), (157, 2022), (158, 2028), (162, 2082), (164, 2094), (165, 2115), (167, 2151), (169, 2160), (172, 2232), (174, 2244), (178, 2265), (179, 2289), (182, 2427), (185, 2454), (207, 2673), (212, 2712), (215, 2742), (217, 2769), (220, 2781), (221, 2787), (229, 2868), (237, 2901), (238, 2904), (252, 3045), (254, 3063), (257, 3075), (258, 3093), (262, 3144),

Gene: Angelicage_2 Start: 514, Stop: 2901, Start Num: 7
Candidate Starts for Angelicage_2:
(Start: 7 @514 has 11 MA's), (8, 520), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (38, 865), (40, 877), (54, 1006), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (91, 1312), (104, 1420), (161, 1879), (174, 2023), (178, 2044), (182, 2176), (185, 2203), (186, 2215), (193, 2296), (195, 2308), (209, 2434), (210, 2452), (217, 2518), (231, 2599), (234, 2620), (237, 2629), (242, 2659), (243, 2674), (252, 2773), (258, 2821),

Gene: Big4_64 Start: 24020, Stop: 26320, Start Num: 21
Candidate Starts for Big4_64:
(Start: 21 @24020 has 5 MA's), (Start: 24 @24062 has 1 MA's), (26, 24071), (30, 24125), (35, 24179), (43, 24248), (53, 24335), (86, 24632), (87, 24635), (113, 24869), (129, 25013), (163, 25298), (181, 25568), (186, 25613), (188, 25652), (189, 25667), (211, 25856), (213, 25862), (218, 25919), (228, 26009), (241, 26072), (242, 26075), (263, 26306),

Gene: BobBob_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for BobBob_2:
(Start: 7 @514 has 11 MA's), (8, 520), (19, 652), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (40, 877), (54, 1006), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (191, 2290), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (219, 2533), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (254, 2797),

Gene: Cece_59 Start: 22539, Stop: 24836, Start Num: 21
Candidate Starts for Cece_59:
(14, 22440), (15, 22455), (Start: 21 @22539 has 5 MA's), (Start: 24 @22581 has 1 MA's), (26, 22590), (30, 22644), (43, 22767), (53, 22854), (69, 22995), (85, 23133), (113, 23388), (137, 23607), (139, 23622), (141, 23637), (175, 23970), (176, 23976), (178, 23988), (181, 24093), (184, 24117), (186, 24138), (188, 24177), (194, 24222), (196, 24231), (197, 24243), (199, 24279), (200, 24282), (211, 24381), (213, 24387), (217, 24441), (218, 24444), (222, 24474), (224, 24483), (235, 24567), (241, 24597), (242, 24600), (246, 24642), (263, 24822),

Gene: Charming_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for Charming_2:
(Start: 7 @514 has 11 MA's), (8, 520), (17, 622), (19, 652), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (76, 1198), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (191, 2290), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (254, 2797),

Gene: Clown_5 Start: 1817, Stop: 4576, Start Num: 5
Candidate Starts for Clown_5:
(1, 1472), (2, 1541), (3, 1550), (Start: 5 @1817 has 12 MA's), (Start: 9 @1865 has 1 MA's), (11, 1889), (12, 1901), (17, 1961), (18, 1967), (19, 1988), (Start: 24 @2060 has 1 MA's), (30, 2126), (32, 2132), (41, 2219), (46, 2300), (50, 2342), (58, 2432), (79, 2654), (84, 2738), (94, 2867), (95, 2906), (101, 2966), (110, 3041), (116, 3095), (127, 3230), (142, 3356), (153, 3455), (159, 3524), (164, 3569), (165, 3590), (167, 3626), (169, 3635), (171, 3692), (173, 3716), (187, 3938), (201, 4058), (208, 4106), (211, 4139), (216, 4175), (220, 4211), (223, 4235), (232, 4289), (245, 4379), (248, 4403), (249, 4406), (252, 4454), (254, 4472), (258, 4502), (259, 4514), (261, 4550),

Gene: Delrey21_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Delrey21_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (80, 1307), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (138, 1850), (144, 1889), (151, 1949), (157, 1991), (164, 2063), (165, 2084), (167,

2120), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (193, 2510), (195, 2522), (207, 2636), (214, 2699), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963), (252, 3011), (254, 3029),

Gene: DoctorFroggo_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for DoctorFroggo_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (80, 1307), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (138, 1850), (144, 1889), (151, 1949), (157, 1991), (164, 2063), (165, 2084), (167, 2120), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (193, 2510), (195, 2522), (207, 2636), (214, 2699), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963), (252, 3011), (254, 3029),

Gene: Dodo_74 Start: 24267, Stop: 26558, Start Num: 21
Candidate Starts for Dodo_74:
(Start: 21 @24267 has 5 MA's), (Start: 24 @24309 has 1 MA's), (26, 24318), (43, 24495), (45, 24510), (64, 24654), (69, 24717), (86, 24873), (87, 24876), (96, 24954), (97, 24957), (113, 25110), (122, 25212), (139, 25338), (175, 25686), (176, 25692), (181, 25809), (186, 25854), (188, 25893), (196, 25953), (204, 26049), (211, 26103), (213, 26109), (215, 26136), (233, 26280), (240, 26301), (241, 26319),

Gene: Erasmago_68 Start: 23755, Stop: 26082, Start Num: 21
Candidate Starts for Erasmago_68:
(Start: 21 @23755 has 5 MA's), (Start: 24 @23800 has 1 MA's), (26, 23809), (30, 23863), (43, 23986), (45, 24001), (85, 24346), (86, 24364), (87, 24367), (89, 24385), (139, 24829), (163, 25030), (181, 25330), (184, 25354), (186, 25375), (188, 25414), (206, 25582), (215, 25651), (218, 25681), (228, 25771), (236, 25810), (241, 25834), (263, 26068),

Gene: Fosterous_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for Fosterous_2:
(Start: 7 @514 has 11 MA's), (8, 520), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (81, 1249), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (191, 2290), (193, 2302), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (219, 2533), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (254, 2797), (258, 2827),

Gene: Keitabear_2 Start: 514, Stop: 2901, Start Num: 7
Candidate Starts for Keitabear_2:
(Start: 7 @514 has 11 MA's), (8, 520), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (81, 1249), (84, 1264), (91, 1312), (131, 1639), (136, 1663), (146, 1738), (149, 1759), (150, 1777), (152, 1783), (160, 1855), (161, 1879), (174, 2023), (178, 2044), (182, 2176), (185, 2203), (186, 2215), (191, 2284), (195, 2308), (209, 2434), (210, 2452), (217, 2518), (231, 2599), (234, 2620), (237, 2629), (242, 2659), (243, 2674), (252, 2773), (254, 2791), (258, 2821), (263, 2881),

Gene: Natkenzie_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Natkenzie_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (33, 833), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (78, 1283), (83, 1346), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (110, 1580), (111,

1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (187, 2462), (195, 2522), (207, 2636), (214, 2699), (215, 2705), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963),

Gene: Nordenberg_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for Nordenberg_2:
(Start: 7 @514 has 11 MA's), (8, 520), (17, 622), (19, 652), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (76, 1198), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (193, 2302), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (254, 2797),

Gene: PauloDiaboli_72 Start: 23344, Stop: 25593, Start Num: 24
Candidate Starts for PauloDiaboli_72:
(Start: 21 @23302 has 5 MA's), (Start: 24 @23344 has 1 MA's), (26, 23353), (43, 23530), (45, 23545), (69, 23752), (86, 23908), (87, 23911), (97, 23992), (113, 24145), (122, 24247), (139, 24373), (175, 24721), (176, 24727), (181, 24844), (186, 24889), (188, 24928), (196, 24988), (204, 25084), (211, 25138), (213, 25144), (215, 25171), (233, 25315), (240, 25336), (241, 25354),

Gene: Phrampa_202 Start: 145625, Stop: 143067, Start Num: 9
Candidate Starts for Phrampa_202:
(Start: 9 @145625 has 1 MA's), (10, 145604), (31, 145358), (37, 145292), (49, 145157), (72, 144956), (77, 144890), (109, 144608), (114, 144557), (118, 144491), (123, 144437), (124, 144428), (132, 144359), (135, 144338), (140, 144284), (145, 144242), (147, 144221), (148, 144215), (166, 144014), (176, 143912), (177, 143909), (186, 143750), (188, 143711), (192, 143669), (195, 143654), (196, 143648), (197, 143636), (198, 143603), (199, 143600), (203, 143567), (205, 143549), (217, 143435), (219, 143426), (230, 143333), (233, 143318), (239, 143300), (244, 143258), (246, 143234), (247, 143225), (250, 143201), (251, 143180), (256, 143144), (260, 143090),

Gene: Pumpernickel_75 Start: 27251, Stop: 29614, Start Num: 16
Candidate Starts for Pumpernickel_75:
(Start: 16 @27251 has 1 MA's), (Start: 24 @27353 has 1 MA's), (26, 27362), (29, 27398), (32, 27422), (43, 27539), (53, 27626), (67, 27758), (71, 27785), (89, 27944), (119, 28235), (155, 28505), (170, 28673), (183, 28886), (186, 28913), (190, 28979), (196, 29012), (204, 29108), (218, 29225), (239, 29357), (241, 29378), (242, 29381), (246, 29423), (253, 29507),

Gene: Rofo_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for Rofo_2:
(Start: 7 @514 has 11 MA's), (8, 520), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (191, 2290), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (254, 2797), (258, 2827),

Gene: Sampson_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Sampson_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (33, 833), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68,

1181), (78, 1283), (83, 1346), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (110, 1580), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (187, 2462), (195, 2522), (207, 2636), (214, 2699), (215, 2705), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963),

Gene: Scioto_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Scioto_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (33, 833), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (78, 1283), (83, 1346), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (110, 1580), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (187, 2462), (195, 2522), (207, 2636), (214, 2699), (215, 2705), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963),

Gene: Sedona_2 Start: 514, Stop: 2901, Start Num: 7
Candidate Starts for Sedona_2:
(Start: 7 @514 has 11 MA's), (8, 520), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (81, 1249), (84, 1264), (91, 1312), (131, 1639), (136, 1663), (146, 1738), (149, 1759), (150, 1777), (152, 1783), (160, 1855), (161, 1879), (174, 2023), (178, 2044), (182, 2176), (185, 2203), (186, 2215), (191, 2284), (195, 2308), (209, 2434), (210, 2452), (217, 2518), (231, 2599), (234, 2620), (237, 2629), (242, 2659), (243, 2674), (252, 2773), (254, 2791), (258, 2821), (263, 2881),

Gene: SharkTale_5 Start: 1661, Stop: 4246, Start Num: 5
Candidate Starts for SharkTale_5:
(4, 1595), (Start: 5 @1661 has 12 MA's), (Start: 9 @1709 has 1 MA's), (Start: 24 @1904 has 1 MA's), (39, 2039), (47, 2144), (57, 2240), (59, 2255), (60, 2273), (61, 2276), (75, 2426), (82, 2510), (88, 2558), (98, 2648), (107, 2738), (108, 2741), (115, 2795), (117, 2837), (121, 2897), (128, 2936), (131, 2957), (133, 2975), (141, 3044), (151, 3125), (154, 3140), (157, 3167), (159, 3194), (162, 3227), (165, 3260), (167, 3296), (169, 3305), (187, 3608), (202, 3734), (208, 3776), (212, 3812), (216, 3845), (217, 3869), (227, 3938), (229, 3947), (232, 3959), (249, 4076), (251, 4112), (258, 4172),

Gene: Tangent_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for Tangent_2:
(Start: 7 @514 has 11 MA's), (8, 520), (17, 622), (19, 652), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (76, 1198), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (191, 2290), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (254, 2797),

Gene: Verity_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Verity_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (80, 1307), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (138, 1850), (144, 1889), (151, 1949), (157, 1991), (164, 2063), (165, 2084), (167, 2120), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (193, 2510), (195, 2522), (207, 2636), (214, 2699), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963), (252, 3011), (254, 3029),

Gene: ViaConlectus_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for ViaConlectus_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (33, 833), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (78, 1283), (83, 1346), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (110, 1580), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (138, 1850), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (187, 2462), (195, 2522), (207, 2636), (214, 2699), (215, 2705), (217, 2732), (223, 2768), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (249, 2963),

Gene: Vivi2_2 Start: 514, Stop: 2907, Start Num: 7
Candidate Starts for Vivi2_2:
(Start: 7 @514 has 11 MA's), (8, 520), (17, 622), (19, 652), (20, 673), (Start: 24 @724 has 1 MA's), (27, 763), (28, 769), (30, 790), (34, 841), (38, 865), (40, 877), (54, 1006), (63, 1060), (65, 1078), (66, 1099), (70, 1135), (72, 1144), (73, 1150), (74, 1174), (84, 1264), (91, 1312), (92, 1327), (93, 1330), (99, 1360), (100, 1390), (103, 1417), (105, 1423), (126, 1615), (130, 1633), (131, 1645), (135, 1666), (143, 1726), (150, 1783), (156, 1822), (167, 1939), (174, 2029), (178, 2050), (182, 2182), (185, 2209), (186, 2221), (191, 2290), (195, 2314), (209, 2440), (210, 2458), (217, 2524), (219, 2533), (231, 2605), (234, 2626), (237, 2635), (242, 2665), (243, 2680), (252, 2779), (258, 2827),

Gene: YungMoney_5 Start: 1791, Stop: 4376, Start Num: 5
Candidate Starts for YungMoney_5:
(Start: 5 @1791 has 12 MA's), (Start: 9 @1839 has 1 MA's), (19, 1962), (Start: 24 @2034 has 1 MA's), (39, 2169), (57, 2370), (59, 2385), (60, 2403), (61, 2406), (75, 2556), (82, 2640), (88, 2688), (98, 2778), (107, 2868), (108, 2871), (115, 2925), (117, 2967), (121, 3027), (128, 3066), (131, 3087), (133, 3105), (141, 3174), (151, 3255), (154, 3270), (157, 3297), (159, 3324), (162, 3357), (165, 3390), (167, 3426), (169, 3435), (202, 3864), (208, 3906), (212, 3942), (216, 3975), (217, 3999), (226, 4065), (227, 4068), (229, 4077), (232, 4089), (249, 4206), (251, 4242), (252, 4254), (258, 4302),

Gene: Zipp_2 Start: 491, Stop: 3136, Start Num: 5
Candidate Starts for Zipp_2:
(Start: 5 @491 has 12 MA's), (8, 530), (13, 581), (20, 677), (22, 701), (Start: 24 @728 has 1 MA's), (36, 857), (42, 902), (44, 932), (48, 989), (51, 1004), (52, 1007), (55, 1049), (62, 1118), (68, 1181), (80, 1307), (90, 1397), (102, 1514), (104, 1529), (106, 1541), (111, 1592), (112, 1598), (121, 1721), (125, 1748), (134, 1805), (138, 1850), (144, 1889), (151, 1949), (157, 1991), (162, 2051), (164, 2063), (165, 2084), (167, 2120), (168, 2123), (169, 2129), (172, 2201), (174, 2213), (178, 2234), (180, 2315), (182, 2396), (185, 2423), (186, 2435), (207, 2636), (210, 2666), (214, 2699), (217, 2732), (225, 2807), (231, 2837), (232, 2846), (237, 2867), (252, 3011),

Gene: Zooman_60 Start: 22688, Stop: 24988, Start Num: 21
Candidate Starts for Zooman_60:
(Start: 21 @22688 has 5 MA's), (Start: 24 @22730 has 1 MA's), (26, 22739), (30, 22793), (35, 22847), (43, 22916), (53, 23003), (86, 23300), (87, 23303), (113, 23537), (120, 23630), (129, 23681), (137, 23750), (163, 23966), (175, 24113), (176, 24119), (181, 24236), (186, 24281), (188, 24320), (189, 24335), (213, 24530), (218, 24587), (228, 24677), (241, 24740), (242, 24743), (263, 24974),