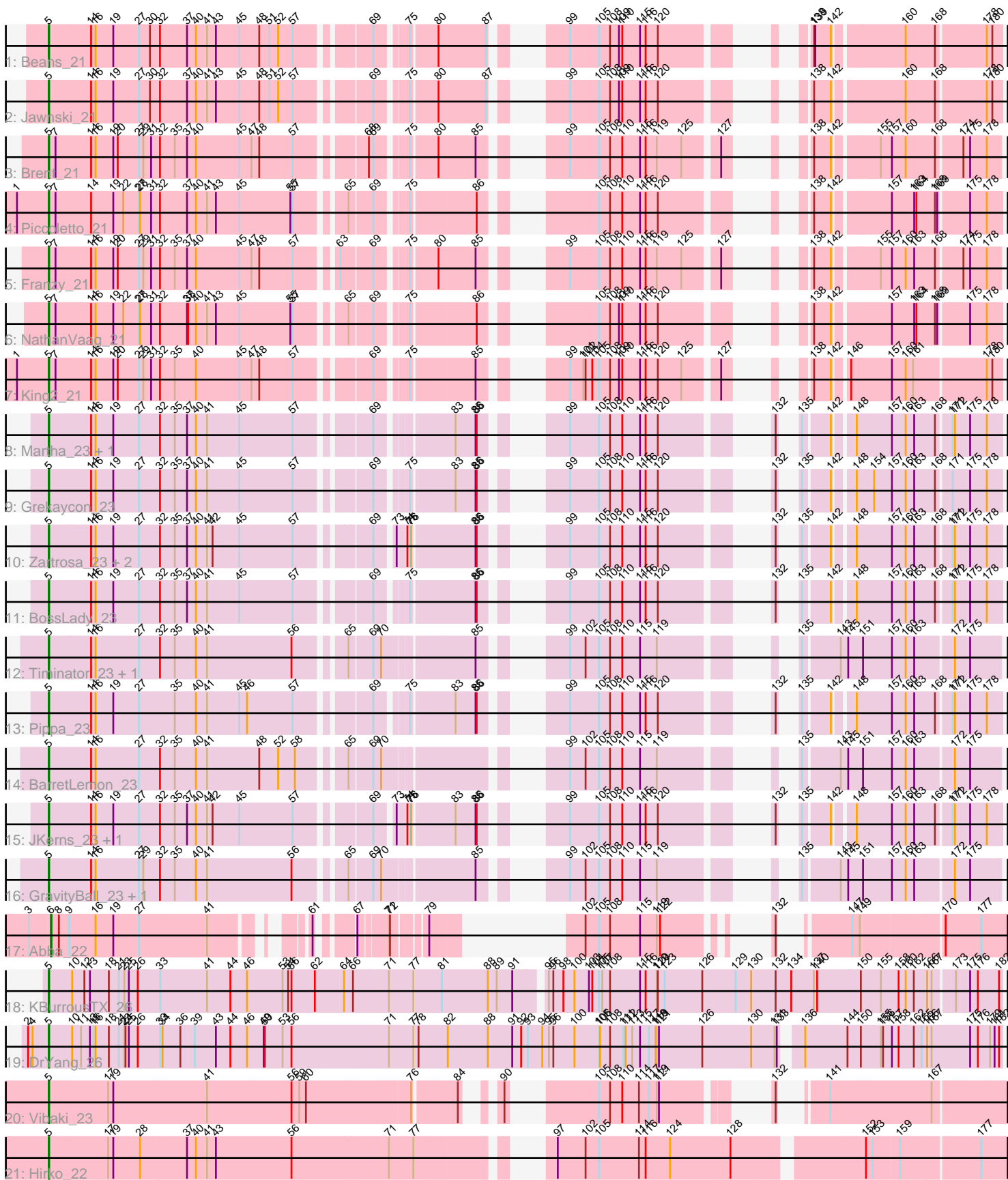


Pham 163867



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 163867 Report

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

Pham number 163867 has 27 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Beans_21
- Track 2 : Jawnski_21
- Track 3 : Brent_21
- Track 4 : Piccoletto_21
- Track 5 : Franzy_21
- Track 6 : NathanVaag_21
- Track 7 : King2_21
- Track 8 : Martha_23, TaeYoung_23
- Track 9 : Grekaycon_23
- Track 10 : Zartrosa_23, Sonny_23, Shade_23
- Track 11 : BossLady_23
- Track 12 : Timinator_23, LeeroyJ_23
- Track 13 : Pippa_23
- Track 14 : BarretLemon_23
- Track 15 : JKerns_23, Jordan_23
- Track 16 : GravityBall_23, StevieBAY_23
- Track 17 : Abba_22
- Track 18 : KBurrousTX_26
- Track 19 : DrYang_26
- Track 20 : Vibaki_23
- Track 21 : Hirko_22

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 25 of the 26 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BarretLemon_23, Beans_21, BossLady_23, Brent_21, DrYang_26, Franzy_21, GravityBall_23, Grekaycon_23, Hirko_22, JKerns_23, Jawnski_21, Jordan_23, KBurrousTX_26, King2_21, LeeroyJ_23, Martha_23, NathanVaag_21, Piccoletto_21, Pippa_23, Shade_23, Sonny_23, StevieBAY_23, TaeYoung_23, Timinator_23, Vibaki_23, Zartrosa_23,

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

-

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

- Abba_22,

Summary by start number:

Start 5:

- Found in 26 of 27 (96.3%) of genes in pham
- Manual Annotations of this start: 25 of 26
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BarretLemon_23 (AO2), Beans_21 (AO1), BossLady_23 (AO2), Brent_21 (AO1), DrYang_26 (AR), Franzy_21 (AO1), GravityBall_23 (AO2), Grekaycon_23 (AO2), Hirko_22 (FL), JKerns_23 (AO2), Jawnski_21 (AO1), Jordan_23 (AO2), KBurrousTX_26 (AR), King2_21 (AO1), LeeroyJ_23 (AO2), Martha_23 (AO2), NathanVaag_21 (AO1), Piccoletto_21 (AO1), Pippa_23 (AO2), Shade_23 (AO2), Sonny_23 (AO2), StevieBAY_23 (AO2), TaeYoung_23 (AO2), Timinator_23 (AO2), Vibaki_23 (FL), Zartrosa_23 (AO2),

Start 6:

- Found in 1 of 27 (3.7%) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba_22 (AO3),

Summary by clusters:

There are 5 clusters represented in this pham: AO3, AR, FL, AO2, AO1,

Info for manual annotations of cluster AO1:

- Start number 5 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 5 was manually annotated 14 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 6 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 5 was manually annotated 2 times for cluster AR.

Info for manual annotations of cluster FL:

- Start number 5 was manually annotated 2 times for cluster FL.

Gene Information:

Gene: Abba_22 Start: 19101, Stop: 20864, Start Num: 6

Candidate Starts for Abba_22:

(3, 19050), (Start: 6 @19101 has 1 MA's), (8, 19122), (9, 19149), (16, 19218), (19, 19266), (27, 19335), (41, 19518), (61, 19686), (67, 19755), (71, 19818), (72, 19821), (79, 19887), (102, 20013),

(105, 20049), (108, 20079), (115, 20160), (119, 20205), (122, 20214), (132, 20361), (147, 20475), (149, 20493), (170, 20697), (177, 20793),

Gene: BarretLemon_23 Start: 18796, Stop: 20910, Start Num: 5

Candidate Starts for BarretLemon_23:

(Start: 5 @18796 has 25 MA's), (14, 18907), (16, 18919), (27, 19036), (32, 19093), (35, 19132), (40, 19189), (41, 19219), (48, 19360), (52, 19411), (58, 19456), (65, 19558), (69, 19612), (70, 19630), (99, 19981), (102, 20023), (105, 20059), (108, 20089), (110, 20122), (115, 20170), (119, 20215), (135, 20413), (143, 20503), (145, 20521), (151, 20560), (157, 20635), (160, 20671), (163, 20692), (172, 20788), (175, 20827),

Gene: Beans_21 Start: 18506, Stop: 20575, Start Num: 5

Candidate Starts for Beans_21:

(Start: 5 @18506 has 25 MA's), (14, 18614), (16, 18626), (19, 18674), (27, 18743), (30, 18773), (32, 18800), (37, 18872), (40, 18896), (41, 18926), (43, 18950), (45, 19013), (48, 19067), (51, 19094), (52, 19118), (57, 19157), (69, 19322), (75, 19385), (80, 19451), (87, 19574), (99, 19670), (105, 19748), (108, 19778), (109, 19802), (110, 19811), (115, 19859), (116, 19874), (120, 19907), (138, 20123), (139, 20126), (142, 20165), (160, 20333), (168, 20408), (178, 20534), (180, 20549),

Gene: BossLady_23 Start: 18820, Stop: 20889, Start Num: 5

Candidate Starts for BossLady_23:

(Start: 5 @18820 has 25 MA's), (14, 18928), (16, 18940), (19, 18988), (27, 19057), (32, 19114), (35, 19153), (37, 19186), (40, 19210), (41, 19240), (45, 19327), (57, 19471), (69, 19636), (75, 19699), (85, 19861), (86, 19864), (99, 19984), (105, 20062), (108, 20092), (110, 20125), (115, 20173), (116, 20188), (120, 20221), (132, 20404), (135, 20416), (142, 20479), (148, 20524), (157, 20611), (160, 20647), (163, 20668), (168, 20722), (171, 20758), (172, 20764), (175, 20803), (178, 20848),

Gene: Brent_21 Start: 18489, Stop: 20555, Start Num: 5

Candidate Starts for Brent_21:

(Start: 5 @18489 has 25 MA's), (7, 18504), (14, 18597), (16, 18609), (19, 18657), (20, 18669), (27, 18726), (29, 18738), (31, 18759), (32, 18783), (35, 18822), (37, 18855), (40, 18879), (45, 18996), (47, 19029), (48, 19050), (57, 19140), (68, 19293), (69, 19305), (75, 19368), (80, 19434), (85, 19530), (99, 19653), (105, 19731), (108, 19761), (110, 19794), (115, 19842), (116, 19857), (119, 19887), (125, 19953), (127, 20034), (138, 20106), (142, 20148), (155, 20253), (157, 20280), (160, 20316), (168, 20391), (174, 20454), (175, 20472), (178, 20517),

Gene: DrYang_26 Start: 21885, Stop: 24371, Start Num: 5

Candidate Starts for DrYang_26:

(2, 21831), (4, 21843), (Start: 5 @21885 has 25 MA's), (10, 21948), (11, 21972), (13, 21996), (15, 22005), (16, 22011), (18, 22047), (21, 22074), (23, 22089), (24, 22092), (25, 22101), (26, 22125), (33, 22179), (34, 22185), (36, 22233), (39, 22272), (43, 22329), (44, 22368), (46, 22413), (49, 22458), (50, 22461), (53, 22509), (56, 22533), (71, 22785), (77, 22851), (78, 22860), (82, 22935), (88, 23043), (91, 23109), (92, 23133), (93, 23151), (94, 23190), (95, 23208), (96, 23220), (100, 23277), (105, 23343), (106, 23346), (108, 23373), (111, 23409), (112, 23415), (113, 23433), (115, 23454), (117, 23478), (118, 23496), (119, 23499), (121, 23505), (126, 23622), (130, 23754), (131, 23817), (133, 23823), (136, 23862), (144, 23967), (150, 24000), (155, 24054), (156, 24060), (157, 24081), (158, 24099), (162, 24138), (165, 24156), (166, 24171), (167, 24183), (175, 24285), (176, 24306), (179, 24339), (181, 24351), (182, 24363),

Gene: Franzy_21 Start: 18488, Stop: 20554, Start Num: 5

Candidate Starts for Franzy_21:

(Start: 5 @18488 has 25 MA's), (7, 18503), (14, 18596), (16, 18608), (19, 18656), (20, 18668), (27, 18725), (29, 18737), (31, 18758), (32, 18782), (35, 18821), (37, 18854), (40, 18878), (45, 18995), (47,

19028), (48, 19049), (57, 19139), (63, 19229), (69, 19304), (75, 19367), (80, 19433), (85, 19529), (99, 19652), (105, 19730), (108, 19760), (110, 19793), (115, 19841), (116, 19856), (119, 19886), (125, 19952), (127, 20033), (138, 20105), (142, 20147), (155, 20252), (157, 20279), (160, 20315), (163, 20336), (168, 20390), (174, 20453), (175, 20471), (178, 20516),

Gene: GravityBall_23 Start: 18795, Stop: 20909, Start Num: 5

Candidate Starts for GravityBall_23:

(Start: 5 @18795 has 25 MA's), (14, 18906), (16, 18918), (27, 19035), (29, 19047), (32, 19092), (35, 19131), (40, 19188), (41, 19218), (56, 19446), (65, 19557), (69, 19611), (70, 19629), (85, 19857), (99, 19980), (102, 20022), (105, 20058), (108, 20088), (110, 20121), (115, 20169), (119, 20214), (135, 20412), (143, 20502), (145, 20520), (151, 20559), (157, 20634), (160, 20670), (163, 20691), (172, 20787), (175, 20826),

Gene: Grekaycon_23 Start: 18829, Stop: 20898, Start Num: 5

Candidate Starts for Grekaycon_23:

(Start: 5 @18829 has 25 MA's), (14, 18937), (16, 18949), (19, 18997), (27, 19066), (32, 19123), (35, 19162), (37, 19195), (40, 19219), (41, 19249), (45, 19336), (57, 19480), (69, 19645), (75, 19708), (83, 19816), (85, 19870), (86, 19873), (99, 19993), (105, 20071), (108, 20101), (110, 20134), (115, 20182), (116, 20197), (120, 20230), (132, 20413), (135, 20425), (142, 20488), (148, 20533), (154, 20575), (157, 20620), (160, 20656), (163, 20677), (168, 20731), (171, 20767), (175, 20812), (178, 20857),

Gene: Hirko_22 Start: 20345, Stop: 22702, Start Num: 5

Candidate Starts for Hirko_22:

(Start: 5 @20345 has 25 MA's), (17, 20498), (19, 20510), (28, 20582), (37, 20708), (40, 20732), (41, 20762), (43, 20786), (56, 20990), (71, 21248), (77, 21314), (97, 21566), (102, 21641), (105, 21677), (114, 21785), (116, 21803), (124, 21869), (128, 22031), (152, 22343), (153, 22361), (159, 22427), (177, 22631),

Gene: JKerns_23 Start: 18856, Stop: 20925, Start Num: 5

Candidate Starts for JKerns_23:

(Start: 5 @18856 has 25 MA's), (14, 18964), (16, 18976), (19, 19024), (27, 19093), (32, 19150), (35, 19189), (37, 19222), (40, 19246), (41, 19276), (42, 19291), (45, 19363), (57, 19507), (69, 19672), (73, 19711), (74, 19729), (75, 19735), (76, 19738), (83, 19843), (85, 19897), (86, 19900), (99, 20020), (105, 20098), (108, 20128), (110, 20161), (115, 20209), (116, 20224), (120, 20257), (132, 20440), (135, 20452), (142, 20515), (148, 20560), (157, 20647), (160, 20683), (163, 20704), (168, 20758), (171, 20794), (172, 20800), (175, 20839), (178, 20884),

Gene: Jawnski_21 Start: 18501, Stop: 20570, Start Num: 5

Candidate Starts for Jawnski_21:

(Start: 5 @18501 has 25 MA's), (14, 18609), (16, 18621), (19, 18669), (27, 18738), (30, 18768), (32, 18795), (37, 18867), (40, 18891), (41, 18921), (43, 18945), (45, 19008), (48, 19062), (51, 19089), (52, 19113), (57, 19152), (69, 19317), (75, 19380), (80, 19446), (87, 19569), (99, 19665), (105, 19743), (108, 19773), (109, 19797), (110, 19806), (115, 19854), (116, 19869), (120, 19902), (138, 20118), (142, 20160), (160, 20328), (168, 20403), (178, 20529), (180, 20544),

Gene: Jordan_23 Start: 18826, Stop: 20895, Start Num: 5

Candidate Starts for Jordan_23:

(Start: 5 @18826 has 25 MA's), (14, 18934), (16, 18946), (19, 18994), (27, 19063), (32, 19120), (35, 19159), (37, 19192), (40, 19216), (41, 19246), (42, 19261), (45, 19333), (57, 19477), (69, 19642), (73, 19681), (74, 19699), (75, 19705), (76, 19708), (83, 19813), (85, 19867), (86, 19870), (99, 19990), (105, 20068), (108, 20098), (110, 20131), (115, 20179), (116, 20194), (120, 20227), (132, 20410), (135, 20422), (142, 20485), (148, 20530), (157, 20617), (160, 20653), (163, 20674), (168, 20728), (171, 20764), (172, 20770), (175, 20809), (178, 20854),

Gene: KBurrousTX_26 Start: 21713, Stop: 24196, Start Num: 5

Candidate Starts for KBurrousTX_26:

(Start: 5 @21713 has 25 MA's), (10, 21773), (12, 21806), (13, 21821), (18, 21872), (21, 21899), (23, 21914), (25, 21926), (26, 21950), (33, 22004), (41, 22130), (44, 22193), (46, 22238), (53, 22334), (54, 22349), (56, 22358), (62, 22421), (64, 22499), (66, 22523), (71, 22610), (77, 22676), (81, 22748), (88, 22868), (89, 22892), (91, 22934), (95, 23006), (96, 23018), (98, 23045), (100, 23075), (103, 23114), (104, 23123), (105, 23141), (107, 23150), (108, 23171), (115, 23252), (116, 23267), (119, 23297), (120, 23300), (123, 23318), (126, 23420), (129, 23510), (130, 23552), (132, 23618), (134, 23660), (137, 23717), (140, 23726), (150, 23837), (155, 23891), (158, 23936), (160, 23954), (162, 23975), (166, 24008), (167, 24020), (173, 24074), (175, 24110), (176, 24131), (182, 24188),

Gene: King2_21 Start: 18492, Stop: 20561, Start Num: 5

Candidate Starts for King2_21:

(1, 18408), (Start: 5 @18492 has 25 MA's), (7, 18507), (14, 18600), (16, 18612), (19, 18660), (20, 18672), (27, 18729), (29, 18741), (31, 18762), (32, 18786), (35, 18825), (40, 18882), (45, 18999), (47, 19032), (48, 19053), (57, 19143), (69, 19308), (75, 19371), (85, 19533), (99, 19656), (101, 19692), (102, 19698), (104, 19716), (105, 19734), (108, 19764), (109, 19788), (110, 19797), (115, 19845), (116, 19860), (120, 19893), (125, 19956), (127, 20037), (138, 20109), (142, 20151), (146, 20181), (157, 20283), (160, 20319), (161, 20337), (178, 20520), (180, 20535),

Gene: LeeroyJ_23 Start: 18795, Stop: 20909, Start Num: 5

Candidate Starts for LeeroyJ_23:

(Start: 5 @18795 has 25 MA's), (14, 18906), (16, 18918), (27, 19035), (32, 19092), (35, 19131), (40, 19188), (41, 19218), (56, 19446), (65, 19557), (69, 19611), (70, 19629), (85, 19857), (99, 19980), (102, 20022), (105, 20058), (108, 20088), (110, 20121), (115, 20169), (119, 20214), (135, 20412), (143, 20502), (145, 20520), (151, 20559), (157, 20634), (160, 20670), (163, 20691), (172, 20787), (175, 20826),

Gene: Martha_23 Start: 18767, Stop: 20836, Start Num: 5

Candidate Starts for Martha_23:

(Start: 5 @18767 has 25 MA's), (14, 18875), (16, 18887), (19, 18935), (27, 19004), (32, 19061), (35, 19100), (37, 19133), (40, 19157), (41, 19187), (45, 19274), (57, 19418), (69, 19583), (83, 19754), (85, 19808), (86, 19811), (99, 19931), (105, 20009), (108, 20039), (110, 20072), (115, 20120), (116, 20135), (120, 20168), (132, 20351), (135, 20363), (142, 20426), (148, 20471), (157, 20558), (160, 20594), (163, 20615), (168, 20669), (171, 20705), (172, 20711), (175, 20750), (178, 20795),

Gene: NathanVaag_21 Start: 18498, Stop: 20567, Start Num: 5

Candidate Starts for NathanVaag_21:

(Start: 5 @18498 has 25 MA's), (7, 18513), (14, 18606), (16, 18618), (19, 18666), (22, 18693), (27, 18735), (28, 18738), (31, 18768), (32, 18792), (37, 18864), (38, 18867), (40, 18888), (41, 18918), (43, 18942), (45, 19005), (55, 19143), (57, 19149), (65, 19260), (69, 19314), (75, 19377), (86, 19542), (105, 19740), (108, 19770), (109, 19794), (110, 19803), (115, 19851), (116, 19866), (120, 19899), (138, 20115), (142, 20157), (157, 20289), (163, 20346), (164, 20352), (168, 20400), (169, 20406), (175, 20481), (178, 20526),

Gene: Piccoletto_21 Start: 18497, Stop: 20566, Start Num: 5

Candidate Starts for Piccoletto_21:

(1, 18413), (Start: 5 @18497 has 25 MA's), (7, 18512), (14, 18605), (19, 18665), (22, 18692), (27, 18734), (28, 18737), (31, 18767), (32, 18791), (37, 18863), (40, 18887), (41, 18917), (43, 18941), (45, 19004), (55, 19142), (57, 19148), (65, 19259), (69, 19313), (75, 19376), (86, 19541), (105, 19739), (108, 19769), (110, 19802), (115, 19850), (116, 19865), (120, 19898), (138, 20114), (142, 20156), (157, 20288), (163, 20345), (164, 20351), (168, 20399), (169, 20405), (175, 20480), (178, 20525),

Gene: Pippa_23 Start: 18865, Stop: 20934, Start Num: 5

Candidate Starts for Pippa_23:

(Start: 5 @18865 has 25 MA's), (14, 18973), (16, 18985), (19, 19033), (27, 19102), (35, 19198), (40, 19255), (41, 19285), (45, 19372), (46, 19393), (57, 19516), (69, 19681), (75, 19744), (83, 19852), (85, 19906), (86, 19909), (99, 20029), (105, 20107), (108, 20137), (110, 20170), (115, 20218), (116, 20233), (120, 20266), (132, 20449), (135, 20461), (142, 20524), (148, 20569), (157, 20656), (160, 20692), (163, 20713), (168, 20767), (171, 20803), (172, 20809), (175, 20848), (178, 20893),

Gene: Shade_23 Start: 18805, Stop: 20874, Start Num: 5

Candidate Starts for Shade_23:

(Start: 5 @18805 has 25 MA's), (14, 18913), (16, 18925), (19, 18973), (27, 19042), (32, 19099), (35, 19138), (37, 19171), (40, 19195), (41, 19225), (42, 19240), (45, 19312), (57, 19456), (69, 19621), (73, 19660), (74, 19678), (75, 19684), (76, 19687), (85, 19846), (86, 19849), (99, 19969), (105, 20047), (108, 20077), (110, 20110), (115, 20158), (116, 20173), (120, 20206), (132, 20389), (135, 20401), (142, 20464), (148, 20509), (157, 20596), (160, 20632), (163, 20653), (168, 20707), (171, 20743), (172, 20749), (175, 20788), (178, 20833),

Gene: Sonny_23 Start: 18826, Stop: 20895, Start Num: 5

Candidate Starts for Sonny_23:

(Start: 5 @18826 has 25 MA's), (14, 18934), (16, 18946), (19, 18994), (27, 19063), (32, 19120), (35, 19159), (37, 19192), (40, 19216), (41, 19246), (42, 19261), (45, 19333), (57, 19477), (69, 19642), (73, 19681), (74, 19699), (75, 19705), (76, 19708), (85, 19867), (86, 19870), (99, 19990), (105, 20068), (108, 20098), (110, 20131), (115, 20179), (116, 20194), (120, 20227), (132, 20410), (135, 20422), (142, 20485), (148, 20530), (157, 20617), (160, 20653), (163, 20674), (168, 20728), (171, 20764), (172, 20770), (175, 20809), (178, 20854),

Gene: StevieBAY_23 Start: 18795, Stop: 20909, Start Num: 5

Candidate Starts for StevieBAY_23:

(Start: 5 @18795 has 25 MA's), (14, 18906), (16, 18918), (27, 19035), (29, 19047), (32, 19092), (35, 19131), (40, 19188), (41, 19218), (56, 19446), (65, 19557), (69, 19611), (70, 19629), (85, 19857), (99, 19980), (102, 20022), (105, 20058), (108, 20088), (110, 20121), (115, 20169), (119, 20214), (135, 20412), (143, 20502), (145, 20520), (151, 20559), (157, 20634), (160, 20670), (163, 20691), (172, 20787), (175, 20826),

Gene: TaeYoung_23 Start: 18830, Stop: 20899, Start Num: 5

Candidate Starts for TaeYoung_23:

(Start: 5 @18830 has 25 MA's), (14, 18938), (16, 18950), (19, 18998), (27, 19067), (32, 19124), (35, 19163), (37, 19196), (40, 19220), (41, 19250), (45, 19337), (57, 19481), (69, 19646), (83, 19817), (85, 19871), (86, 19874), (99, 19994), (105, 20072), (108, 20102), (110, 20135), (115, 20183), (116, 20198), (120, 20231), (132, 20414), (135, 20426), (142, 20489), (148, 20534), (157, 20621), (160, 20657), (163, 20678), (168, 20732), (171, 20768), (172, 20774), (175, 20813), (178, 20858),

Gene: Timinator_23 Start: 18795, Stop: 20909, Start Num: 5

Candidate Starts for Timinator_23:

(Start: 5 @18795 has 25 MA's), (14, 18906), (16, 18918), (27, 19035), (32, 19092), (35, 19131), (40, 19188), (41, 19218), (56, 19446), (65, 19557), (69, 19611), (70, 19629), (85, 19857), (99, 19980), (102, 20022), (105, 20058), (108, 20088), (110, 20121), (115, 20169), (119, 20214), (135, 20412), (143, 20502), (145, 20520), (151, 20559), (157, 20634), (160, 20670), (163, 20691), (172, 20787), (175, 20826),

Gene: Vibaki_23 Start: 20740, Stop: 22815, Start Num: 5

Candidate Starts for Vibaki_23:

(Start: 5 @20740 has 25 MA's), (17, 20893), (19, 20905), (41, 21157), (56, 21382), (59, 21400), (60, 21418), (76, 21685), (84, 21784), (90, 21826), (105, 21979), (108, 22009), (110, 22042), (114, 22087), (117, 22114), (119, 22135), (121, 22141), (132, 22312), (141, 22366), (167, 22630),

Gene: Zartrosa_23 Start: 18829, Stop: 20898, Start Num: 5

Candidate Starts for Zartrosa_23:

(Start: 5 @18829 has 25 MA's), (14, 18937), (16, 18949), (19, 18997), (27, 19066), (32, 19123), (35, 19162), (37, 19195), (40, 19219), (41, 19249), (42, 19264), (45, 19336), (57, 19480), (69, 19645), (73, 19684), (74, 19702), (75, 19708), (76, 19711), (85, 19870), (86, 19873), (99, 19993), (105, 20071), (108, 20101), (110, 20134), (115, 20182), (116, 20197), (120, 20230), (132, 20413), (135, 20425), (142, 20488), (148, 20533), (157, 20620), (160, 20656), (163, 20677), (168, 20731), (171, 20767), (172, 20773), (175, 20812), (178, 20857),