

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 308525 Report

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

Pham number 308525 has 72 members, 11 are drafts.

Phages represented in each track:

- Track 1 : EastWest_22
- Track 2 : Franzy_19
- Track 3 : Brent_19
- Track 4 : King2_19
- Track 5 : NathanVaag_19
- Track 6 : Piccoletto_19
- Track 7 : Beans_19, Jawnski_19
- Track 8 : JKerns_21
- Track 9 : Pippa_21
- Track 10 : Shade_21, Sonny_21, Jordan_21
- Track 11 : BigDome_21, BarretLemon_21, GravityBall_21, StevieBAY_21
- Track 12 : Martha_21, Grekaycon_21, TaeYoung_21, BossLady_21
- Track 13 : Zartrosa_21
- Track 14 : Timinator_21, LeeroyJ_21
- Track 15 : Sicarius2_22
- Track 16 : Wyborn_22
- Track 17 : Nostromo_20
- Track 18 : Abba_20
- Track 19 : Chocolat_24, Kabreeze_24, Scavito_24, PrincessTrina_24, JaNo_24, Mordred_24, Linus_24, HumptyDumpty_24
- Track 20 : MoyaNatalis_24, Conboy_24, Chubster_24, EdgarPoe_24, RosiePosie_24
- Track 21 : Chipper1996_240, Tophat_24
- Track 22 : KBurrousTX_24
- Track 23 : Lymara_24
- Track 24 : DrYang_24
- Track 25 : JayCookie_24
- Track 26 : Colucci_23
- Track 27 : ArV1_020
- Track 28 : Circuit_20
- Track 29 : Altadena_20
- Track 30 : CalWood4100_21, Lilmac1015_21
- Track 31 : Nandito_20
- Track 32 : Bumble_20
- Track 33 : Prairie_20
- Track 34 : Bolt007_20
- Track 35 : Klevey_20

- Track 36 : GoldDust_21, Gooberta_21, Vibaki_21, Music_21
- Track 37 : AirForce1_23
- Track 38 : Vitus_21
- Track 39 : SunnyJune_22
- Track 40 : Divya_21
- Track 41 : Jinkies_24
- Track 42 : BlackJade_25
- Track 43 : Orkz_24
- Track 44 : Hirko_20
- Track 45 : Bubbykins_23
- Track 46 : Lukepolites_20

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

The start number called the most often in the published annotations is 11, it was called in 32 of the 61 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altadena_20, BarretLemon_21, Beans_19, BigDome_21, Bolt007_20, BossLady_21, Brent_19, Bumble_20, CalWood4100_21, Circuit_20, EastWest_22, Franzy_19, GravityBall_21, Grekaycon_21, JKerns_21, Jawnski_19, Jordan_21, King2_19, Klevey_20, LeeroyJ_21, Lilmac1015_21, Martha_21, Nandito_20, NathanVaag_19, Piccoletto_19, Pippa_21, Prairie_20, Shade_21, Sicarius2_22, Sonny_21, StevieBAY_21, TaeYoung_21, Timinator_21, Wyborn_22, Zartrosa_21,

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

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

- Abba_20, AirForce1_23, ArV1_020, BlackJade_25, Bubbykins_23, Chipper1996_240, Chocolat_24, Chubster_24, Colucci_23, Conboy_24, Divya_21, DrYang_24, EdgarPoe_24, GoldDust_21, Gooberta_21, Hirko_20, HumptyDumpty_24, JaNo_24, JayCookie_24, Jinkies_24, KBurroustX_24, Kabreeze_24, Linus_24, Lukepolites_20, Lymara_24, Mordred_24, MoyaNatalis_24, Music_21, Nostromo_20, Orkz_24, PrincessTrina_24, RosiePosie_24, Scavito_24, SunnyJune_22, Tophat_24, Vibaki_21, Vitus_21,

Summary by start number:

Start 9:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jinkies_24 (FL),

Start 10:

- Found in 2 of 72 (2.8%) of genes in pham
- Manual Annotations of this start: 2 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba_20 (AO3), Nostromo_20 (AO3),

Start 11:

- Found in 35 of 72 (48.6%) of genes in pham
- Manual Annotations of this start: 32 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altadena_20 (FH), BarretLemon_21 (AO2), Beans_19 (AO1), BigDome_21 (AO2), Bolt007_20 (FH), BossLady_21 (AO2), Brent_19 (AO1), Bumble_20 (FH), CalWood4100_21 (FH), Circuit_20 (FH), EastWest_22 (AO), Franzy_19 (AO1), GravityBall_21 (AO2), Grekaycon_21 (AO2), JKerns_21 (AO2), Jawnski_19 (AO1), Jordan_21 (AO2), King2_19 (AO1), Klevey_20 (FH), LeeroyJ_21 (AO2), Lilmac1015_21 (FH), Martha_21 (AO2), Nandito_20 (FH), NathanVaag_19 (AO1), Piccoletto_19 (AO1), Pippa_21 (AO2), Prairie_20 (FH), Shade_21 (AO2), Sicarius2_22 (AO2), Sonny_21 (AO2), StevieBAY_21 (AO2), TaeYoung_21 (AO2), Timinator_21 (AO2), Wyborn_22 (AO2), Zartrosa_21 (AO2),

Start 12:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DrYang_24 (AR),

Start 13:

- Found in 34 of 72 (47.2%) of genes in pham
- Manual Annotations of this start: 25 of 61
- Called 97.1% of time when present
- Phage (with cluster) where this start called: AirForce1_23 (FL), ArV1_020 (AR), BlackJade_25 (FL), Bubbykins_23 (UNK), Chipper1996_240 (AR), Chocolat_24 (AR), Chubster_24 (AR), Colucci_23 (AR), Conboy_24 (AR), Divya_21 (FL), EdgarPoe_24 (AR), GoldDust_21 (FL), Gooberta_21 (FL), Hirko_20 (FL), HumptyDumpty_24 (AR), JaNo_24 (AR), JayCookie_24 (AR), KBurrousTX_24 (AR), Kabreeze_24 (AR), Linus_24 (AR), Lukepolites_20 (singleton), Lymara_24 (AR), Mordred_24 (AR), MoyaNatalis_24 (AR), Music_21 (FL), Orkz_24 (FL), PrincessTrina_24 (AR), RosiePosie_24 (AR), Scavito_24 (AR), SunnyJune_22 (FL), Tophat_24 (AR), Vibaki_21 (FL), Vitus_21 (FL),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, AO, AR, AO3, AO2, AO1, FH, UNK, FL,

Info for manual annotations of cluster AO:

- Start number 11 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 11 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 11 was manually annotated 17 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 10 was manually annotated 2 times for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 12 was manually annotated 1 time for cluster AR.
- Start number 13 was manually annotated 18 times for cluster AR.

Info for manual annotations of cluster FH:

- Start number 11 was manually annotated 7 times for cluster FH.

Info for manual annotations of cluster FL:

- Start number 9 was manually annotated 1 time for cluster FL.
- Start number 13 was manually annotated 7 times for cluster FL.

Gene Information:

Gene: Abba_20 Start: 17372, Stop: 18694, Start Num: 10

Candidate Starts for Abba_20:

(Start: 10 @17372 has 2 MA's), (23, 17492), (24, 17501), (29, 17531), (31, 17552), (38, 17639), (51, 17759), (58, 17801), (59, 17849), (74, 18002), (75, 18011), (84, 18107), (89, 18140), (91, 18158), (97, 18197), (113, 18305), (142, 18575), (153, 18659), (156, 18686),

Gene: AirForce1_23 Start: 17277, Stop: 18656, Start Num: 13

Candidate Starts for AirForce1_23:

(Start: 13 @17277 has 25 MA's), (15, 17289), (24, 17403), (34, 17499), (36, 17511), (49, 17643), (51, 17661), (54, 17673), (63, 17781), (69, 17835), (75, 17913), (86, 18015), (87, 18018), (88, 18033), (89, 18042), (94, 18081), (99, 18105), (106, 18183), (118, 18264), (121, 18285), (128, 18345), (136, 18435), (148, 18531), (152, 18567), (157, 18612), (159, 18642), (160, 18648), (161, 18651),

Gene: Altadena_20 Start: 16398, Stop: 17723, Start Num: 11

Candidate Starts for Altadena_20:

(Start: 11 @16398 has 32 MA's), (18, 16470), (24, 16527), (30, 16563), (32, 16599), (33, 16620), (34, 16623), (51, 16785), (75, 17034), (92, 17190), (121, 17385), (148, 17637), (154, 17691),

Gene: ArV1_020 Start: 18261, Stop: 19604, Start Num: 13

Candidate Starts for ArV1_020:

(4, 18120), (5, 18126), (Start: 13 @18261 has 25 MA's), (16, 18303), (19, 18333), (27, 18402), (28, 18411), (32, 18459), (33, 18480), (35, 18492), (36, 18495), (37, 18501), (42, 18555), (47, 18618), (51, 18645), (54, 18657), (59, 18732), (65, 18786), (69, 18816), (74, 18885), (75, 18894), (76, 18909), (78, 18939), (79, 18945), (85, 18993), (87, 18999), (89, 19023), (94, 19062), (95, 19068), (96, 19077), (99, 19086), (108, 19173), (109, 19176), (120, 19260), (124, 19302), (128, 19326), (135, 19401), (138, 19452), (140, 19476), (142, 19485), (143, 19488), (145, 19509),

Gene: BarretLemon_21 Start: 17047, Stop: 18387, Start Num: 11

Candidate Starts for BarretLemon_21:

(Start: 11 @17047 has 32 MA's), (16, 17089), (17, 17104), (18, 17116), (24, 17173), (31, 17224), (47, 17404), (51, 17431), (54, 17443), (58, 17473), (59, 17521), (63, 17551), (69, 17605), (75, 17683), (85, 17782), (89, 17812), (118, 18028), (121, 18049), (139, 18238), (142, 18268), (145, 18292), (148, 18301), (156, 18379),

Gene: Beans_19 Start: 16750, Stop: 18096, Start Num: 11

Candidate Starts for Beans_19:

(5, 16621), (Start: 11 @16750 has 32 MA's), (24, 16876), (31, 16927), (47, 17107), (51, 17134), (54, 17146), (58, 17176), (59, 17224), (61, 17236), (74, 17377), (75, 17386), (85, 17485), (89, 17515), (94,

17554), (96, 17569), (97, 17572), (98, 17575), (121, 17758), (139, 17947), (142, 17977), (151, 18040),

Gene: BigDome_21 Start: 17035, Stop: 18375, Start Num: 11

Candidate Starts for BigDome_21:

(Start: 11 @17035 has 32 MA's), (16, 17077), (17, 17092), (18, 17104), (24, 17161), (31, 17212), (47, 17392), (51, 17419), (54, 17431), (58, 17461), (59, 17509), (63, 17539), (69, 17593), (75, 17671), (85, 17770), (89, 17800), (118, 18016), (121, 18037), (139, 18226), (142, 18256), (145, 18280), (148, 18289), (156, 18367),

Gene: BlackJade_25 Start: 19219, Stop: 20595, Start Num: 13

Candidate Starts for BlackJade_25:

(Start: 13 @19219 has 25 MA's), (16, 19261), (18, 19288), (24, 19345), (26, 19354), (30, 19381), (36, 19453), (41, 19492), (42, 19513), (43, 19522), (47, 19576), (49, 19585), (51, 19603), (54, 19615), (63, 19723), (67, 19753), (74, 19846), (75, 19855), (78, 19900), (79, 19906), (88, 19975), (89, 19984), (91, 20002), (92, 20011), (94, 20023), (96, 20038), (97, 20041), (99, 20047), (105, 20122), (113, 20167), (116, 20179), (121, 20221), (130, 20296), (131, 20299), (132, 20302), (136, 20374), (147, 20467), (148, 20470), (150, 20497), (155, 20533), (160, 20587),

Gene: Bolt007_20 Start: 16226, Stop: 17575, Start Num: 11

Candidate Starts for Bolt007_20:

(Start: 11 @16226 has 32 MA's), (18, 16298), (23, 16346), (24, 16355), (30, 16391), (32, 16427), (33, 16448), (34, 16451), (51, 16613), (75, 16862), (121, 17225), (148, 17489), (151, 17519),

Gene: BossLady_21 Start: 17061, Stop: 18410, Start Num: 11

Candidate Starts for BossLady_21:

(Start: 11 @17061 has 32 MA's), (24, 17187), (31, 17238), (47, 17418), (51, 17445), (54, 17457), (58, 17487), (74, 17688), (75, 17697), (78, 17742), (80, 17754), (89, 17826), (99, 17889), (118, 18051), (121, 18072), (139, 18261), (142, 18291), (145, 18315), (148, 18324),

Gene: Brent_19 Start: 16732, Stop: 18078, Start Num: 11

Candidate Starts for Brent_19:

(5, 16603), (Start: 11 @16732 has 32 MA's), (24, 16858), (31, 16909), (34, 16954), (47, 17089), (51, 17116), (54, 17128), (58, 17158), (59, 17206), (61, 17218), (69, 17290), (74, 17359), (75, 17368), (85, 17467), (88, 17488), (89, 17497), (94, 17536), (98, 17557), (99, 17560), (107, 17647), (116, 17698), (118, 17719), (121, 17740), (127, 17797), (139, 17929), (142, 17959), (146, 17986), (151, 18022),

Gene: Bubbykins_23 Start: 19505, Stop: 20887, Start Num: 13

Candidate Starts for Bubbykins_23:

(6, 19409), (Start: 13 @19505 has 25 MA's), (17, 19562), (19, 19577), (28, 19655), (29, 19661), (33, 19724), (35, 19736), (45, 19844), (46, 19850), (47, 19862), (50, 19883), (51, 19889), (55, 19913), (58, 19931), (59, 19976), (68, 20039), (69, 20060), (74, 20129), (75, 20138), (77, 20174), (78, 20183), (81, 20198), (84, 20234), (85, 20237), (88, 20258), (89, 20267), (91, 20285), (92, 20294), (94, 20306), (95, 20312), (96, 20321), (99, 20330), (100, 20339), (114, 20462), (115, 20465), (116, 20471), (117, 20483), (119, 20501), (122, 20540), (123, 20546), (128, 20573), (141, 20729), (147, 20762), (153, 20816), (155, 20828), (158, 20873),

Gene: Bumble_20 Start: 16403, Stop: 17731, Start Num: 11

Candidate Starts for Bumble_20:

(Start: 11 @16403 has 32 MA's), (23, 16523), (30, 16568), (32, 16604), (33, 16625), (51, 16790), (75, 17039), (97, 17225), (121, 17393), (148, 17645), (151, 17675), (154, 17699),

Gene: CalWood4100_21 Start: 16206, Stop: 17573, Start Num: 11

Candidate Starts for CalWood4100_21:

(Start: 11 @16206 has 32 MA's), (18, 16278), (23, 16326), (24, 16335), (30, 16371), (32, 16407), (33, 16428), (51, 16593), (64, 16716), (75, 16842), (121, 17223), (148, 17487), (151, 17517),

Gene: Chipper1996_240 Start: 19940, Stop: 21283, Start Num: 13

Candidate Starts for Chipper1996_240:

(Start: 13 @19940 has 25 MA's), (16, 19982), (19, 20012), (23, 20057), (28, 20090), (33, 20159), (35, 20171), (36, 20174), (41, 20213), (42, 20234), (47, 20297), (52, 20327), (53, 20333), (60, 20414), (69, 20495), (74, 20564), (75, 20573), (78, 20618), (81, 20633), (85, 20672), (87, 20678), (88, 20693), (89, 20702), (91, 20720), (94, 20741), (95, 20747), (99, 20765), (102, 20792), (108, 20852), (109, 20855), (116, 20903), (117, 20915), (120, 20939), (123, 20978), (124, 20981), (134, 21074), (135, 21080), (140, 21155), (142, 21164), (143, 21167),

Gene: Chocolat_24 Start: 19941, Stop: 21284, Start Num: 13

Candidate Starts for Chocolat_24:

(Start: 13 @19941 has 25 MA's), (16, 19983), (23, 20058), (28, 20091), (33, 20160), (35, 20172), (36, 20175), (41, 20214), (42, 20235), (47, 20298), (52, 20328), (53, 20334), (60, 20415), (69, 20496), (74, 20565), (75, 20574), (78, 20619), (81, 20634), (85, 20673), (87, 20679), (88, 20694), (89, 20703), (91, 20721), (94, 20742), (95, 20748), (99, 20766), (102, 20793), (108, 20853), (109, 20856), (116, 20904), (117, 20916), (120, 20940), (123, 20979), (124, 20982), (134, 21075), (135, 21081), (140, 21156), (142, 21165), (143, 21168),

Gene: Chubster_24 Start: 19711, Stop: 21054, Start Num: 13

Candidate Starts for Chubster_24:

(Start: 13 @19711 has 25 MA's), (16, 19753), (19, 19783), (23, 19828), (28, 19861), (33, 19930), (35, 19942), (36, 19945), (41, 19984), (42, 20005), (47, 20068), (52, 20098), (53, 20104), (60, 20185), (69, 20266), (74, 20335), (75, 20344), (78, 20389), (81, 20404), (85, 20443), (87, 20449), (88, 20464), (89, 20473), (91, 20491), (94, 20512), (95, 20518), (99, 20536), (102, 20563), (108, 20623), (109, 20626), (117, 20686), (120, 20710), (123, 20749), (124, 20752), (134, 20845), (135, 20851), (140, 20926), (142, 20935), (143, 20938),

Gene: Circuit_20 Start: 16398, Stop: 17726, Start Num: 11

Candidate Starts for Circuit_20:

(Start: 11 @16398 has 32 MA's), (18, 16470), (23, 16518), (24, 16527), (30, 16563), (32, 16599), (33, 16620), (50, 16779), (51, 16785), (75, 17034), (97, 17220), (101, 17244), (121, 17388), (148, 17640), (151, 17670), (154, 17694),

Gene: Colucci_23 Start: 19410, Stop: 20753, Start Num: 13

Candidate Starts for Colucci_23:

(Start: 13 @19410 has 25 MA's), (16, 19452), (19, 19482), (27, 19551), (28, 19560), (33, 19629), (34, 19632), (35, 19641), (36, 19644), (37, 19650), (42, 19704), (47, 19767), (51, 19794), (53, 19803), (54, 19806), (60, 19884), (69, 19965), (70, 19971), (74, 20034), (75, 20043), (78, 20088), (79, 20094), (85, 20142), (89, 20172), (94, 20211), (96, 20226), (97, 20229), (102, 20262), (104, 20301), (108, 20322), (109, 20325), (110, 20331), (122, 20442), (124, 20451), (128, 20475), (135, 20550), (140, 20625),

Gene: Conboy_24 Start: 19939, Stop: 21282, Start Num: 13

Candidate Starts for Conboy_24:

(Start: 13 @19939 has 25 MA's), (16, 19981), (19, 20011), (23, 20056), (28, 20089), (33, 20158), (35, 20170), (36, 20173), (41, 20212), (42, 20233), (47, 20296), (52, 20326), (53, 20332), (60, 20413), (69, 20494), (74, 20563), (75, 20572), (78, 20617), (81, 20632), (85, 20671), (87, 20677), (88, 20692), (89, 20701), (91, 20719), (94, 20740), (95, 20746), (99, 20764), (102, 20791), (108, 20851), (109, 20854), (117, 20914), (120, 20938), (123, 20977), (124, 20980), (134, 21073), (135, 21079), (140, 21154), (142, 21163), (143, 21166),

Gene: Divya_21 Start: 16626, Stop: 18002, Start Num: 13

Candidate Starts for Divya_21:

(Start: 13 @16626 has 25 MA's), (16, 16668), (17, 16683), (18, 16695), (21, 16710), (24, 16752), (28, 16776), (38, 16890), (39, 16893), (41, 16899), (42, 16920), (47, 16983), (50, 17004), (51, 17010), (53, 17019), (54, 17022), (56, 17040), (63, 17130), (64, 17136), (66, 17157), (67, 17160), (69, 17184), (74, 17253), (75, 17262), (79, 17313), (87, 17367), (89, 17391), (91, 17409), (94, 17430), (96, 17445), (99, 17454), (111, 17556), (118, 17607), (121, 17628), (122, 17655), (128, 17688), (136, 17781), (147, 17874), (148, 17877), (150, 17904), (159, 17988), (160, 17994),

Gene: DrYang_24 Start: 20135, Stop: 21481, Start Num: 12

Candidate Starts for DrYang_24:

(Start: 12 @20135 has 1 MA's), (16, 20180), (17, 20195), (19, 20210), (23, 20255), (25, 20270), (28, 20288), (29, 20294), (32, 20336), (33, 20357), (35, 20369), (37, 20378), (42, 20432), (47, 20495), (51, 20522), (55, 20546), (60, 20612), (69, 20693), (74, 20762), (75, 20771), (76, 20786), (78, 20816), (85, 20870), (87, 20876), (88, 20891), (89, 20900), (91, 20918), (94, 20939), (95, 20945), (102, 20990), (103, 21002), (108, 21050), (109, 21053), (116, 21101), (117, 21113), (120, 21137), (122, 21170), (123, 21176), (124, 21179), (134, 21272), (143, 21365),

Gene: EastWest_22 Start: 17037, Stop: 18389, Start Num: 11

Candidate Starts for EastWest_22:

(Start: 11 @17037 has 32 MA's), (15, 17049), (16, 17079), (18, 17106), (24, 17163), (31, 17214), (42, 17331), (51, 17421), (54, 17433), (58, 17463), (61, 17523), (62, 17535), (75, 17673), (85, 17772), (89, 17802), (90, 17811), (91, 17820), (118, 18018), (142, 18270), (148, 18303), (151, 18333), (156, 18381),

Gene: EdgarPoe_24 Start: 19939, Stop: 21282, Start Num: 13

Candidate Starts for EdgarPoe_24:

(Start: 13 @19939 has 25 MA's), (16, 19981), (19, 20011), (23, 20056), (28, 20089), (33, 20158), (35, 20170), (36, 20173), (41, 20212), (42, 20233), (47, 20296), (52, 20326), (53, 20332), (60, 20413), (69, 20494), (74, 20563), (75, 20572), (78, 20617), (81, 20632), (85, 20671), (87, 20677), (88, 20692), (89, 20701), (91, 20719), (94, 20740), (95, 20746), (99, 20764), (102, 20791), (108, 20851), (109, 20854), (117, 20914), (120, 20938), (123, 20977), (124, 20980), (134, 21073), (135, 21079), (140, 21154), (142, 21163), (143, 21166),

Gene: Franzy_19 Start: 16732, Stop: 18078, Start Num: 11

Candidate Starts for Franzy_19:

(5, 16603), (Start: 11 @16732 has 32 MA's), (24, 16858), (31, 16909), (34, 16954), (47, 17089), (51, 17116), (54, 17128), (58, 17158), (59, 17206), (61, 17218), (64, 17242), (69, 17290), (74, 17359), (75, 17368), (85, 17467), (88, 17488), (89, 17497), (94, 17536), (98, 17557), (99, 17560), (107, 17647), (116, 17698), (118, 17719), (121, 17740), (127, 17797), (139, 17929), (142, 17959), (146, 17986), (151, 18022),

Gene: GoldDust_21 Start: 19127, Stop: 20455, Start Num: 13

Candidate Starts for GoldDust_21:

(Start: 13 @19127 has 25 MA's), (24, 19253), (47, 19484), (51, 19511), (54, 19523), (56, 19541), (74, 19754), (75, 19763), (86, 19865), (89, 19892), (107, 20033), (129, 20186), (147, 20366),

Gene: Gooberta_21 Start: 19126, Stop: 20454, Start Num: 13

Candidate Starts for Gooberta_21:

(Start: 13 @19126 has 25 MA's), (24, 19252), (47, 19483), (51, 19510), (54, 19522), (56, 19540), (74, 19753), (75, 19762), (86, 19864), (89, 19891), (107, 20032), (129, 20185), (147, 20365),

Gene: GravityBall_21 Start: 17046, Stop: 18386, Start Num: 11

Candidate Starts for GravityBall_21:

(Start: 11 @17046 has 32 MA's), (16, 17088), (17, 17103), (18, 17115), (24, 17172), (31, 17223), (47, 17403), (51, 17430), (54, 17442), (58, 17472), (59, 17520), (63, 17550), (69, 17604), (75, 17682), (85, 17781), (89, 17811), (118, 18027), (121, 18048), (139, 18237), (142, 18267), (145, 18291), (148, 18300), (156, 18378),

Gene: Grekaycon_21 Start: 17070, Stop: 18419, Start Num: 11

Candidate Starts for Grekaycon_21:

(Start: 11 @17070 has 32 MA's), (24, 17196), (31, 17247), (47, 17427), (51, 17454), (54, 17466), (58, 17496), (74, 17697), (75, 17706), (78, 17751), (80, 17763), (89, 17835), (99, 17898), (118, 18060), (121, 18081), (139, 18270), (142, 18300), (145, 18324), (148, 18333),

Gene: Hirko_20 Start: 18622, Stop: 19941, Start Num: 13

Candidate Starts for Hirko_20:

(Start: 13 @18622 has 25 MA's), (24, 18748), (47, 18979), (51, 19006), (54, 19018), (56, 19036), (65, 19150), (74, 19249), (75, 19258), (86, 19360), (89, 19387), (129, 19672), (137, 19759), (149, 19876),

Gene: HumptyDumpty_24 Start: 19938, Stop: 21281, Start Num: 13

Candidate Starts for HumptyDumpty_24:

(Start: 13 @19938 has 25 MA's), (16, 19980), (23, 20055), (28, 20088), (33, 20157), (35, 20169), (36, 20172), (41, 20211), (42, 20232), (47, 20295), (52, 20325), (53, 20331), (60, 20412), (69, 20493), (74, 20562), (75, 20571), (78, 20616), (81, 20631), (85, 20670), (87, 20676), (88, 20691), (89, 20700), (91, 20718), (94, 20739), (95, 20745), (99, 20763), (102, 20790), (108, 20850), (109, 20853), (116, 20901), (117, 20913), (120, 20937), (123, 20976), (124, 20979), (134, 21072), (135, 21078), (140, 21153), (142, 21162), (143, 21165),

Gene: JKerns_21 Start: 17097, Stop: 18446, Start Num: 11

Candidate Starts for JKerns_21:

(3, 16836), (Start: 11 @17097 has 32 MA's), (24, 17223), (31, 17274), (47, 17454), (51, 17481), (54, 17493), (58, 17523), (74, 17724), (75, 17733), (78, 17778), (80, 17790), (89, 17862), (99, 17925), (118, 18087), (121, 18108), (139, 18297), (142, 18327), (145, 18351), (146, 18354), (148, 18360),

Gene: JaNo_24 Start: 19938, Stop: 21281, Start Num: 13

Candidate Starts for JaNo_24:

(Start: 13 @19938 has 25 MA's), (16, 19980), (23, 20055), (28, 20088), (33, 20157), (35, 20169), (36, 20172), (41, 20211), (42, 20232), (47, 20295), (52, 20325), (53, 20331), (60, 20412), (69, 20493), (74, 20562), (75, 20571), (78, 20616), (81, 20631), (85, 20670), (87, 20676), (88, 20691), (89, 20700), (91, 20718), (94, 20739), (95, 20745), (99, 20763), (102, 20790), (108, 20850), (109, 20853), (116, 20901), (117, 20913), (120, 20937), (123, 20976), (124, 20979), (134, 21072), (135, 21078), (140, 21153), (142, 21162), (143, 21165),

Gene: Jawnski_19 Start: 16745, Stop: 18091, Start Num: 11

Candidate Starts for Jawnski_19:

(5, 16616), (Start: 11 @16745 has 32 MA's), (24, 16871), (31, 16922), (47, 17102), (51, 17129), (54, 17141), (58, 17171), (59, 17219), (61, 17231), (74, 17372), (75, 17381), (85, 17480), (89, 17510), (94, 17549), (96, 17564), (97, 17567), (98, 17570), (121, 17753), (139, 17942), (142, 17972), (151, 18035),

Gene: JayCookie_24 Start: 19941, Stop: 21284, Start Num: 13

Candidate Starts for JayCookie_24:

(Start: 13 @19941 has 25 MA's), (16, 19983), (23, 20058), (28, 20091), (33, 20160), (35, 20172), (36, 20175), (41, 20214), (42, 20235), (47, 20298), (52, 20328), (53, 20334), (60, 20415), (69, 20496), (74, 20565), (75, 20574), (78, 20619), (81, 20634), (85, 20673), (87, 20679), (88, 20694), (89, 20703), (91, 20721), (94, 20742), (95, 20748), (99, 20766), (102, 20793), (108, 20853), (109, 20856), (117, 20916),

(120, 20940), (123, 20979), (124, 20982), (134, 21075), (135, 21081), (140, 21156), (142, 21165),
(143, 21168),

Gene: Jinkies_24 Start: 19903, Stop: 21324, Start Num: 9

Candidate Starts for Jinkies_24:

(8, 19888), (Start: 9 @19903 has 1 MA's), (Start: 13 @19945 has 25 MA's), (16, 19987), (24, 20071),
(25, 20077), (34, 20167), (36, 20179), (43, 20248), (49, 20311), (51, 20329), (54, 20341), (63, 20449),
(69, 20503), (75, 20581), (86, 20683), (88, 20701), (89, 20710), (94, 20749), (99, 20773), (106, 20851),
(118, 20932), (121, 20953), (136, 21103), (144, 21178), (147, 21196), (148, 21199), (152, 21235),
(157, 21280), (159, 21310), (160, 21316), (161, 21319),

Gene: Jordan_21 Start: 17067, Stop: 18416, Start Num: 11

Candidate Starts for Jordan_21:

(3, 16806), (Start: 11 @17067 has 32 MA's), (24, 17193), (31, 17244), (47, 17424), (51, 17451), (54,
17463), (58, 17493), (74, 17694), (75, 17703), (78, 17748), (80, 17760), (89, 17832), (99, 17895), (118,
18057), (121, 18078), (139, 18267), (142, 18297), (145, 18321), (148, 18330),

Gene: KBurrousTX_24 Start: 19972, Stop: 21312, Start Num: 13

Candidate Starts for KBurrousTX_24:

(Start: 13 @19972 has 25 MA's), (16, 20014), (17, 20029), (19, 20044), (25, 20104), (28, 20122), (32,
20170), (33, 20191), (35, 20203), (36, 20206), (37, 20212), (42, 20266), (44, 20287), (46, 20317), (47,
20329), (48, 20332), (51, 20356), (53, 20365), (58, 20398), (59, 20443), (65, 20497), (67, 20503), (69,
20527), (75, 20605), (76, 20620), (80, 20662), (85, 20704), (89, 20734), (91, 20752), (94, 20773), (95,
20779), (99, 20797), (102, 20824), (108, 20884), (109, 20887), (117, 20944), (120, 20968), (122,
21001), (123, 21007), (124, 21010), (134, 21103), (140, 21184), (143, 21196),

Gene: Kabreeze_24 Start: 19938, Stop: 21281, Start Num: 13

Candidate Starts for Kabreeze_24:

(Start: 13 @19938 has 25 MA's), (16, 19980), (23, 20055), (28, 20088), (33, 20157), (35, 20169), (36,
20172), (41, 20211), (42, 20232), (47, 20295), (52, 20325), (53, 20331), (60, 20412), (69, 20493), (74,
20562), (75, 20571), (78, 20616), (81, 20631), (85, 20670), (87, 20676), (88, 20691), (89, 20700), (91,
20718), (94, 20739), (95, 20745), (99, 20763), (102, 20790), (108, 20850), (109, 20853), (116, 20901),
(117, 20913), (120, 20937), (123, 20976), (124, 20979), (134, 21072), (135, 21078), (140, 21153),
(142, 21162), (143, 21165),

Gene: King2_19 Start: 16732, Stop: 18081, Start Num: 11

Candidate Starts for King2_19:

(Start: 11 @16732 has 32 MA's), (24, 16858), (31, 16909), (47, 17089), (51, 17116), (54, 17128), (58,
17158), (59, 17206), (61, 17218), (64, 17242), (74, 17359), (75, 17368), (85, 17467), (88, 17488), (89,
17497), (94, 17536), (98, 17557), (99, 17560), (107, 17647), (116, 17701), (121, 17743), (127, 17800),
(139, 17932), (142, 17962), (151, 18025),

Gene: Klevey_20 Start: 16216, Stop: 17583, Start Num: 11

Candidate Starts for Klevey_20:

(Start: 11 @16216 has 32 MA's), (18, 16288), (23, 16336), (24, 16345), (32, 16417), (33, 16438), (51,
16603), (64, 16726), (75, 16852), (91, 16999), (121, 17233), (148, 17497), (151, 17527),

Gene: LeeroyJ_21 Start: 17046, Stop: 18386, Start Num: 11

Candidate Starts for LeeroyJ_21:

(Start: 11 @17046 has 32 MA's), (16, 17088), (17, 17103), (18, 17115), (24, 17172), (31, 17223), (47,
17403), (51, 17430), (54, 17442), (58, 17472), (59, 17520), (63, 17550), (69, 17604), (75, 17682), (85,
17781), (89, 17811), (118, 18027), (121, 18048), (139, 18237), (142, 18267), (145, 18291), (148,
18300), (156, 18378),

Gene: Lilmac1015_21 Start: 16206, Stop: 17573, Start Num: 11

Candidate Starts for Lilmac1015_21:

(Start: 11 @16206 has 32 MA's), (18, 16278), (23, 16326), (24, 16335), (30, 16371), (32, 16407), (33, 16428), (51, 16593), (64, 16716), (75, 16842), (121, 17223), (148, 17487), (151, 17517),

Gene: Linus_24 Start: 19938, Stop: 21281, Start Num: 13

Candidate Starts for Linus_24:

(Start: 13 @19938 has 25 MA's), (16, 19980), (23, 20055), (28, 20088), (33, 20157), (35, 20169), (36, 20172), (41, 20211), (42, 20232), (47, 20295), (52, 20325), (53, 20331), (60, 20412), (69, 20493), (74, 20562), (75, 20571), (78, 20616), (81, 20631), (85, 20670), (87, 20676), (88, 20691), (89, 20700), (91, 20718), (94, 20739), (95, 20745), (99, 20763), (102, 20790), (108, 20850), (109, 20853), (116, 20901), (117, 20913), (120, 20937), (123, 20976), (124, 20979), (134, 21072), (135, 21078), (140, 21153), (142, 21162), (143, 21165),

Gene: Lukepolites_20 Start: 16238, Stop: 17614, Start Num: 13

Candidate Starts for Lukepolites_20:

(Start: 13 @16238 has 25 MA's), (14, 16247), (36, 16475), (38, 16505), (51, 16625), (57, 16661), (71, 16829), (73, 16853), (79, 16925), (82, 16952), (93, 17033), (97, 17063), (112, 17207), (126, 17324), (133, 17381), (142, 17492), (147, 17522), (149, 17546),

Gene: Lymara_24 Start: 19936, Stop: 21279, Start Num: 13

Candidate Starts for Lymara_24:

(Start: 13 @19936 has 25 MA's), (16, 19978), (17, 19993), (19, 20008), (23, 20053), (25, 20068), (28, 20086), (32, 20134), (33, 20155), (35, 20167), (36, 20170), (41, 20209), (42, 20230), (47, 20293), (52, 20323), (53, 20329), (60, 20410), (65, 20461), (67, 20467), (69, 20491), (74, 20560), (75, 20569), (78, 20614), (81, 20629), (85, 20668), (87, 20674), (88, 20689), (89, 20698), (91, 20716), (94, 20737), (102, 20788), (108, 20848), (109, 20851), (116, 20899), (117, 20911), (120, 20935), (123, 20974), (124, 20977), (128, 21001), (134, 21070), (140, 21151), (143, 21163),

Gene: Martha_21 Start: 17008, Stop: 18357, Start Num: 11

Candidate Starts for Martha_21:

(Start: 11 @17008 has 32 MA's), (24, 17134), (31, 17185), (47, 17365), (51, 17392), (54, 17404), (58, 17434), (74, 17635), (75, 17644), (78, 17689), (80, 17701), (89, 17773), (99, 17836), (118, 17998), (121, 18019), (139, 18208), (142, 18238), (145, 18262), (148, 18271),

Gene: Mordred_24 Start: 19938, Stop: 21281, Start Num: 13

Candidate Starts for Mordred_24:

(Start: 13 @19938 has 25 MA's), (16, 19980), (23, 20055), (28, 20088), (33, 20157), (35, 20169), (36, 20172), (41, 20211), (42, 20232), (47, 20295), (52, 20325), (53, 20331), (60, 20412), (69, 20493), (74, 20562), (75, 20571), (78, 20616), (81, 20631), (85, 20670), (87, 20676), (88, 20691), (89, 20700), (91, 20718), (94, 20739), (95, 20745), (99, 20763), (102, 20790), (108, 20850), (109, 20853), (116, 20901), (117, 20913), (120, 20937), (123, 20976), (124, 20979), (134, 21072), (135, 21078), (140, 21153), (142, 21162), (143, 21165),

Gene: MoyaNatalis_24 Start: 19941, Stop: 21284, Start Num: 13

Candidate Starts for MoyaNatalis_24:

(Start: 13 @19941 has 25 MA's), (16, 19983), (19, 20013), (23, 20058), (28, 20091), (33, 20160), (35, 20172), (36, 20175), (41, 20214), (42, 20235), (47, 20298), (52, 20328), (53, 20334), (60, 20415), (69, 20496), (74, 20565), (75, 20574), (78, 20619), (81, 20634), (85, 20673), (87, 20679), (88, 20694), (89, 20703), (91, 20721), (94, 20742), (95, 20748), (99, 20766), (102, 20793), (108, 20853), (109, 20856), (117, 20916), (120, 20940), (123, 20979), (124, 20982), (134, 21075), (135, 21081), (140, 21156), (142, 21165), (143, 21168),

Gene: Music_21 Start: 18995, Stop: 20323, Start Num: 13

Candidate Starts for Music_21:

(Start: 13 @18995 has 25 MA's), (24, 19121), (47, 19352), (51, 19379), (54, 19391), (56, 19409), (74, 19622), (75, 19631), (86, 19733), (89, 19760), (107, 19901), (129, 20054), (147, 20234),

Gene: Nandito_20 Start: 16308, Stop: 17657, Start Num: 11

Candidate Starts for Nandito_20:

(Start: 11 @16308 has 32 MA's), (18, 16380), (24, 16437), (30, 16473), (32, 16509), (33, 16530), (46, 16656), (51, 16695), (67, 16842), (75, 16944), (121, 17307), (148, 17571), (151, 17601),

Gene: NathanVaag_19 Start: 16738, Stop: 18087, Start Num: 11

Candidate Starts for NathanVaag_19:

(5, 16609), (Start: 11 @16738 has 32 MA's), (24, 16864), (31, 16915), (47, 17095), (51, 17122), (54, 17134), (58, 17164), (59, 17212), (61, 17224), (69, 17296), (74, 17365), (75, 17374), (85, 17473), (88, 17494), (89, 17503), (94, 17542), (98, 17563), (107, 17653), (121, 17749), (132, 17827), (139, 17938), (142, 17968), (151, 18031),

Gene: Nostromo_20 Start: 17007, Stop: 18326, Start Num: 10

Candidate Starts for Nostromo_20:

(Start: 10 @17007 has 2 MA's), (23, 17127), (24, 17136), (29, 17166), (31, 17187), (34, 17232), (38, 17274), (42, 17304), (43, 17313), (51, 17394), (54, 17406), (59, 17484), (63, 17514), (84, 17742), (89, 17772), (91, 17790), (113, 17937), (129, 18057), (132, 18066), (142, 18207), (156, 18318),

Gene: Orkz_24 Start: 16608, Stop: 17984, Start Num: 13

Candidate Starts for Orkz_24:

(Start: 13 @16608 has 25 MA's), (16, 16650), (18, 16677), (21, 16692), (24, 16734), (25, 16740), (31, 16785), (41, 16881), (42, 16902), (43, 16911), (46, 16953), (47, 16965), (49, 16974), (50, 16986), (51, 16992), (54, 17004), (56, 17022), (59, 17082), (65, 17136), (74, 17235), (78, 17289), (79, 17295), (83, 17331), (87, 17349), (88, 17364), (89, 17373), (91, 17391), (92, 17400), (94, 17412), (96, 17427), (97, 17430), (99, 17436), (105, 17511), (116, 17568), (117, 17580), (121, 17610), (136, 17763), (147, 17856), (148, 17859), (150, 17886), (155, 17922), (159, 17970), (160, 17976),

Gene: Piccoletto_19 Start: 16738, Stop: 18087, Start Num: 11

Candidate Starts for Piccoletto_19:

(5, 16609), (Start: 11 @16738 has 32 MA's), (24, 16864), (31, 16915), (47, 17095), (51, 17122), (54, 17134), (58, 17164), (59, 17212), (61, 17224), (74, 17365), (75, 17374), (85, 17473), (88, 17494), (89, 17503), (94, 17542), (98, 17563), (107, 17653), (121, 17749), (127, 17806), (139, 17938), (142, 17968), (145, 17992), (151, 18031),

Gene: Pippa_21 Start: 17099, Stop: 18454, Start Num: 11

Candidate Starts for Pippa_21:

(Start: 11 @17099 has 32 MA's), (24, 17228), (31, 17279), (40, 17372), (47, 17459), (51, 17486), (54, 17498), (58, 17528), (74, 17729), (75, 17738), (79, 17789), (89, 17867), (118, 18095), (121, 18116), (132, 18194), (139, 18305), (142, 18335), (145, 18359), (151, 18398),

Gene: Prairie_20 Start: 16213, Stop: 17580, Start Num: 11

Candidate Starts for Prairie_20:

(Start: 11 @16213 has 32 MA's), (18, 16285), (23, 16333), (24, 16342), (32, 16414), (33, 16435), (42, 16510), (51, 16600), (64, 16723), (75, 16849), (121, 17230), (148, 17494), (151, 17524),

Gene: PrincessTrina_24 Start: 19941, Stop: 21284, Start Num: 13

Candidate Starts for PrincessTrina_24:

(Start: 13 @19941 has 25 MA's), (16, 19983), (23, 20058), (28, 20091), (33, 20160), (35, 20172), (36, 20175), (41, 20214), (42, 20235), (47, 20298), (52, 20328), (53, 20334), (60, 20415), (69, 20496), (74, 20565), (75, 20574), (78, 20619), (81, 20634), (85, 20673), (87, 20679), (88, 20694), (89, 20703), (91, 20721), (94, 20742), (95, 20748), (99, 20766), (102, 20793), (108, 20853), (109, 20856), (116, 20904), (117, 20916), (120, 20940), (123, 20979), (124, 20982), (134, 21075), (135, 21081), (140, 21156), (142, 21165), (143, 21168),

Gene: RosiePosie_24 Start: 19941, Stop: 21284, Start Num: 13

Candidate Starts for RosiePosie_24:

(Start: 13 @19941 has 25 MA's), (16, 19983), (19, 20013), (23, 20058), (28, 20091), (33, 20160), (35, 20172), (36, 20175), (41, 20214), (42, 20235), (47, 20298), (52, 20328), (53, 20334), (60, 20415), (69, 20496), (74, 20565), (75, 20574), (78, 20619), (81, 20634), (85, 20673), (87, 20679), (88, 20694), (89, 20703), (91, 20721), (94, 20742), (95, 20748), (99, 20766), (102, 20793), (108, 20853), (109, 20856), (117, 20916), (120, 20940), (123, 20979), (124, 20982), (134, 21075), (135, 21081), (140, 21156), (142, 21165), (143, 21168),

Gene: Scavito_24 Start: 19938, Stop: 21281, Start Num: 13

Candidate Starts for Scavito_24:

(Start: 13 @19938 has 25 MA's), (16, 19980), (23, 20055), (28, 20088), (33, 20157), (35, 20169), (36, 20172), (41, 20211), (42, 20232), (47, 20295), (52, 20325), (53, 20331), (60, 20412), (69, 20493), (74, 20562), (75, 20571), (78, 20616), (81, 20631), (85, 20670), (87, 20676), (88, 20691), (89, 20700), (91, 20718), (94, 20739), (95, 20745), (99, 20763), (102, 20790), (108, 20850), (109, 20853), (116, 20901), (117, 20913), (120, 20937), (123, 20976), (124, 20979), (134, 21072), (135, 21078), (140, 21153), (142, 21162), (143, 21165),

Gene: Shade_21 Start: 17046, Stop: 18395, Start Num: 11

Candidate Starts for Shade_21:

(3, 16785), (Start: 11 @17046 has 32 MA's), (24, 17172), (31, 17223), (47, 17403), (51, 17430), (54, 17442), (58, 17472), (74, 17673), (75, 17682), (78, 17727), (80, 17739), (89, 17811), (99, 17874), (118, 18036), (121, 18057), (139, 18246), (142, 18276), (145, 18300), (148, 18309),

Gene: Sicarius2_22 Start: 17553, Stop: 18878, Start Num: 11

Candidate Starts for Sicarius2_22:

(1, 17214), (2, 17217), (3, 17292), (Start: 11 @17553 has 32 MA's), (18, 17622), (23, 17670), (24, 17679), (31, 17730), (42, 17847), (46, 17898), (47, 17910), (51, 17937), (54, 17949), (58, 17979), (62, 18051), (75, 18189), (85, 18288), (89, 18318), (90, 18327), (91, 18336), (99, 18381), (118, 18519), (127, 18597), (139, 18729), (141, 18756), (142, 18759), (148, 18792), (156, 18870),

Gene: Sonny_21 Start: 17067, Stop: 18416, Start Num: 11

Candidate Starts for Sonny_21:

(3, 16806), (Start: 11 @17067 has 32 MA's), (24, 17193), (31, 17244), (47, 17424), (51, 17451), (54, 17463), (58, 17493), (74, 17694), (75, 17703), (78, 17748), (80, 17760), (89, 17832), (99, 17895), (118, 18057), (121, 18078), (139, 18267), (142, 18297), (145, 18321), (148, 18330),

Gene: StevieBAY_21 Start: 17046, Stop: 18386, Start Num: 11

Candidate Starts for StevieBAY_21:

(Start: 11 @17046 has 32 MA's), (16, 17088), (17, 17103), (18, 17115), (24, 17172), (31, 17223), (47, 17403), (51, 17430), (54, 17442), (58, 17472), (59, 17520), (63, 17550), (69, 17604), (75, 17682), (85, 17781), (89, 17811), (118, 18027), (121, 18048), (139, 18237), (142, 18267), (145, 18291), (148, 18300), (156, 18378),

Gene: SunnyJune_22 Start: 18336, Stop: 19715, Start Num: 13

Candidate Starts for SunnyJune_22:

(7, 18258), (Start: 13 @18336 has 25 MA's), (16, 18378), (17, 18393), (24, 18462), (31, 18513), (34, 18558), (36, 18570), (39, 18603), (43, 18639), (49, 18702), (51, 18720), (54, 18732), (63, 18840), (69, 18894), (72, 18945), (75, 18972), (86, 19074), (88, 19092), (89, 19101), (94, 19140), (99, 19164), (106, 19242), (118, 19323), (121, 19344), (128, 19404), (136, 19494), (148, 19590), (152, 19626), (157, 19671), (159, 19701), (160, 19707), (161, 19710),

Gene: TaeYoung_21 Start: 17071, Stop: 18420, Start Num: 11

Candidate Starts for TaeYoung_21:

(Start: 11 @17071 has 32 MA's), (24, 17197), (31, 17248), (47, 17428), (51, 17455), (54, 17467), (58, 17497), (74, 17698), (75, 17707), (78, 17752), (80, 17764), (89, 17836), (99, 17899), (118, 18061), (121, 18082), (139, 18271), (142, 18301), (145, 18325), (148, 18334),

Gene: Timinator_21 Start: 17046, Stop: 18386, Start Num: 11

Candidate Starts for Timinator_21:

(Start: 11 @17046 has 32 MA's), (16, 17088), (17, 17103), (18, 17115), (24, 17172), (31, 17223), (47, 17403), (51, 17430), (54, 17442), (58, 17472), (59, 17520), (63, 17550), (69, 17604), (75, 17682), (85, 17781), (89, 17811), (118, 18027), (121, 18048), (139, 18237), (142, 18267), (145, 18291), (148, 18300), (156, 18378),

Gene: Tophat_24 Start: 19940, Stop: 21283, Start Num: 13

Candidate Starts for Tophat_24:

(Start: 13 @19940 has 25 MA's), (16, 19982), (19, 20012), (23, 20057), (28, 20090), (33, 20159), (35, 20171), (36, 20174), (41, 20213), (42, 20234), (47, 20297), (52, 20327), (53, 20333), (60, 20414), (69, 20495), (74, 20564), (75, 20573), (78, 20618), (81, 20633), (85, 20672), (87, 20678), (88, 20693), (89, 20702), (91, 20720), (94, 20741), (95, 20747), (99, 20765), (102, 20792), (108, 20852), (109, 20855), (116, 20903), (117, 20915), (120, 20939), (123, 20978), (124, 20981), (134, 21074), (135, 21080), (140, 21155), (142, 21164), (143, 21167),

Gene: Vibaki_21 Start: 19008, Stop: 20336, Start Num: 13

Candidate Starts for Vibaki_21:

(Start: 13 @19008 has 25 MA's), (24, 19134), (47, 19365), (51, 19392), (54, 19404), (56, 19422), (74, 19635), (75, 19644), (86, 19746), (89, 19773), (107, 19914), (129, 20067), (147, 20247),

Gene: Vitus_21 Start: 18163, Stop: 19476, Start Num: 13

Candidate Starts for Vitus_21:

(Start: 13 @18163 has 25 MA's), (15, 18175), (16, 18205), (20, 18241), (22, 18271), (23, 18280), (24, 18289), (32, 18361), (33, 18382), (51, 18547), (54, 18559), (65, 18691), (75, 18799), (78, 18844), (89, 18928), (107, 19057), (125, 19180), (127, 19198), (142, 19357), (148, 19390), (151, 19420), (153, 19441),

Gene: Wyborn_22 Start: 17414, Stop: 18736, Start Num: 11

Candidate Starts for Wyborn_22:

(Start: 11 @17414 has 32 MA's), (18, 17483), (24, 17540), (31, 17591), (42, 17708), (46, 17759), (47, 17771), (51, 17798), (54, 17810), (58, 17840), (62, 17912), (75, 18050), (85, 18149), (89, 18179), (90, 18188), (91, 18197), (99, 18242), (118, 18377), (127, 18455), (139, 18587), (141, 18614), (142, 18617), (148, 18650), (156, 18728),

Gene: Zartrosa_21 Start: 17070, Stop: 18419, Start Num: 11

Candidate Starts for Zartrosa_21:

(3, 16809), (Start: 11 @17070 has 32 MA's), (24, 17196), (31, 17247), (47, 17427), (51, 17454), (58, 17496), (74, 17697), (75, 17706), (78, 17751), (80, 17763), (89, 17835), (99, 17898), (118, 18060), (121, 18081), (139, 18270), (142, 18300), (145, 18324), (148, 18333),