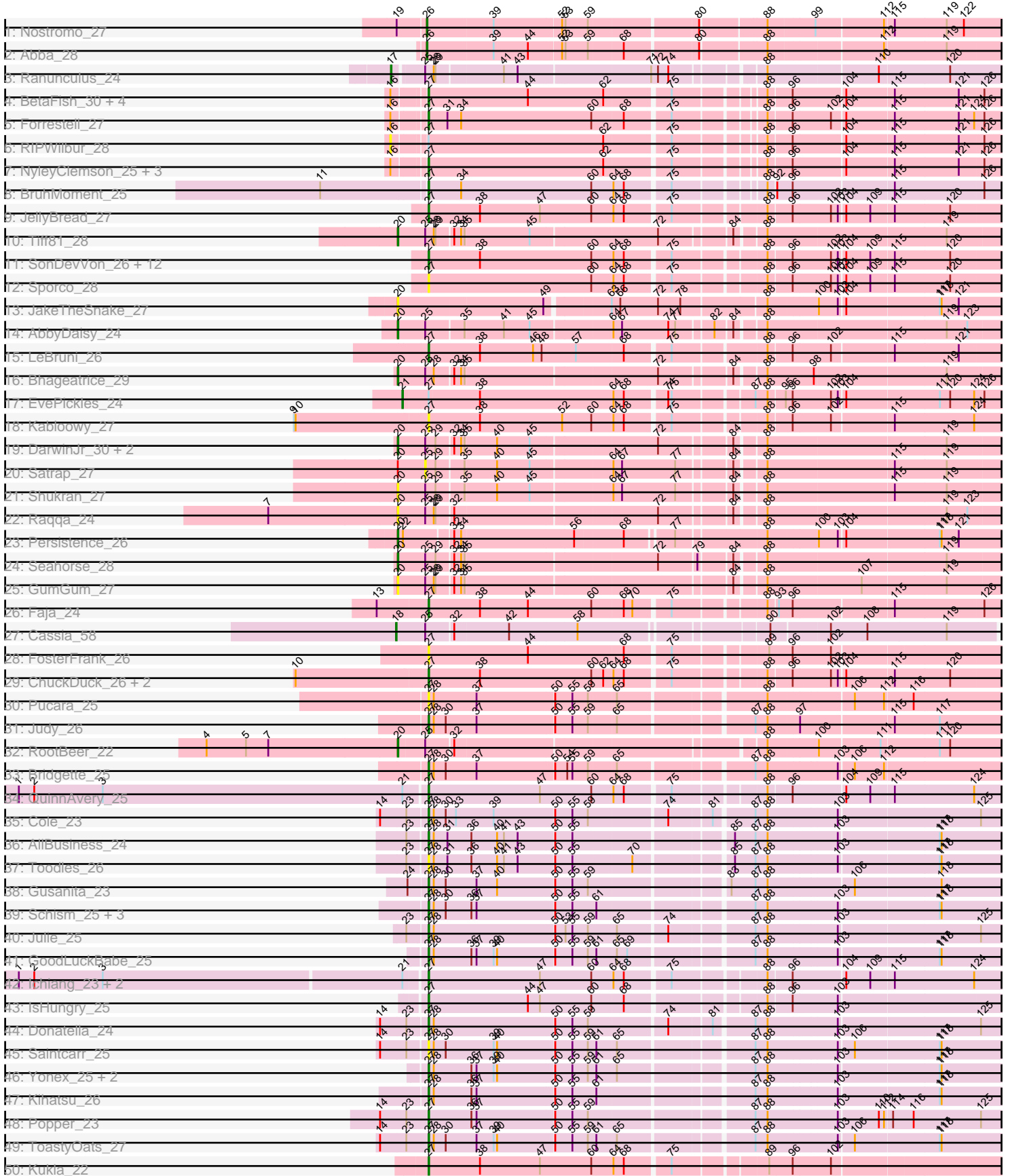


Pham 303261



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 303261 Report

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

Pham number 303261 has 97 members, 25 are drafts.

Phages represented in each track:

- Track 1 : Nostromo_27
- Track 2 : Abba_28
- Track 3 : Ranunculus_24
- Track 4 : BetaFish_30, Beagle_31, RazzB_26, PhuzzTulsa_28, Pureglobe5_32
- Track 5 : Forrestell_27
- Track 6 : RIPWilbur_28
- Track 7 : NyleyClemson_25, Hive_30, MellowYellow_27, Kubulix_31
- Track 8 : BruhMoment_25
- Track 9 : JellyBread_27
- Track 10 : Tiff81_28
- Track 11 : SonDevVon_26, Vopal_28, Phrank15_26, MUWow_26, Raphaella_27, Sakai_27, NewKitty_28, AdaS_27, BillyTP_27, Mapleville_26, Lawnathon_27, Gorpy_27, Isolde_27
- Track 12 : Sporco_28
- Track 13 : JakeTheSnake_27
- Track 14 : AbbyDaisy_24
- Track 15 : LeBruni_26
- Track 16 : Bhageatrice_29
- Track 17 : EvePickles_24
- Track 18 : Kabloowy_27
- Track 19 : DarwinJr_30, Anekin_26, Crescenzo_27
- Track 20 : Satrap_27
- Track 21 : Shukran_27
- Track 22 : Raqqa_24
- Track 23 : Persistence_26
- Track 24 : Seahorse_28
- Track 25 : GumGum_27
- Track 26 : Faja_24
- Track 27 : Cassia_58
- Track 28 : FosterFrank_26
- Track 29 : ChuckDuck_26, KayMoney_26, LittleRon_26
- Track 30 : Pucara_25
- Track 31 : Judy_26
- Track 32 : RootBeer_22
- Track 33 : Bridgette_25
- Track 34 : QuinnAvery_25
- Track 35 : Cole_23

- Track 36 : AllBusiness_24
- Track 37 : Toodles_26
- Track 38 : Gusanita_23
- Track 39 : Schism_25, Guinevere_25, Nandita_25, Lenoxika_25
- Track 40 : Julie_25
- Track 41 : GoodLuckBabe_25
- Track 42 : Ichiang_23, BigSherm_25, Halloweekend_23
- Track 43 : IsHungry_25
- Track 44 : Donatella_24
- Track 45 : Saintcarr_25
- Track 46 : Yonex_25, Ryan_25, Zaheer_25
- Track 47 : Kihatsu_26
- Track 48 : Popper_23
- Track 49 : ToastyOats_27
- Track 50 : Kukla_22
- Track 51 : TripleJ_24, PetriParty_23
- Track 52 : DreamEater_21
- Track 53 : Music_27, Gooberta_27
- Track 54 : Hirko_27
- Track 55 : GoldDust_27, Vibaki_27
- Track 56 : Vitus_27
- Track 57 : Zucker_24, Bauer_25
- Track 58 : Pitbull_22
- Track 59 : Skitty_22, MrSmee_22
- Track 60 : Merpity_24
- Track 61 : Altostratus_20
- Track 62 : DillyDally_21

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

The start number called the most often in the published annotations is 27, it was called in 52 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdaS_27, AllBusiness_24, Altostratus_20, Beagle_31, BetaFish_30, BigSherm_25, BillyTP_27, Bridgette_25, BruhMoment_25, ChuckDuck_26, Cole_23, DillyDally_21, Donatella_24, DreamEater_21, Faja_24, Forrestell_27, FosterFrank_26, GoldDust_27, GoodLuckBabe_25, Gorpy_27, Guinevere_25, Gusanita_23, Halloweekend_23, Hirko_27, Hive_30, Ichiang_23, IsHungry_25, Isolde_27, JellyBread_27, Judy_26, Julie_25, Kabloowy_27, KayMoney_26, Kihatsu_26, Kubulix_31, Kukla_22, Lawnathon_27, LeBruni_26, Lenoxika_25, LittleRon_26, MUWow_26, Mapleville_26, MellowYellow_27, Nandita_25, NewKitty_28, NyleyClemson_25, Phrank15_26, PhuzzTulsa_28, Pitbull_22, Popper_23, Pucara_25, Pureglobe5_32, QuinnAvery_25, Raphaella_27, RazzB_26, Ryan_25, Saintcarr_25, Sakai_27, Schism_25, SonDevVon_26, Sporco_28, ToastyOats_27, Toodles_26, Vibaki_27, Vopal_28, Yonex_25, Zaheer_25,

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

- EvePickles_24, Gooberta_27, Music_27, RIPWilbur_28,

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

- Abba_28, AbbyDaisy_24, Anekin_26, Bauer_25, Bhageatrice_29, Cassia_58, Crescenzo_27, DarwinJr_30, GumGum_27, JakeTheSnake_27, Merpity_24, MrSmee_22, Nostromo_27, Persistence_26, PetriParty_23, Ranunculus_24, Raqqa_24, RootBeer_22, Satrap_27, Seahorse_28, Shukran_27, Skitty_22, Tiff81_28, TripleJ_24, Vitus_27, Zucker_24,

Summary by start number:

Start 16:

- Found in 11 of 97 (11.3%) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: RIPWilbur_28 (AP2),

Start 17:

- Found in 1 of 97 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ranunculus_24 (AP),

Start 18:

- Found in 1 of 97 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 72
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cassia_58 (AZ1),

Start 20:

- Found in 21 of 97 (21.6%) of genes in pham
- Manual Annotations of this start: 14 of 72
- Called 95.2% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_24 (AY), Anekin_26 (AY), Bauer_25 (FN), Bhageatrice_29 (AY), Crescenzo_27 (AY), DarwinJr_30 (AY), GumGum_27 (AY), JakeTheSnake_27 (AY), Merpity_24 (FQ), MrSmee_22 (FQ), Persistence_26 (AY), PetriParty_23 (FJ), Raqqa_24 (AY), RootBeer_22 (FA), Seahorse_28 (AY), Shukran_27 (AY), Skitty_22 (FQ), Tiff81_28 (AY), TripleJ_24 (FJ), Zucker_24 (FN),

Start 21:

- Found in 7 of 97 (7.2%) of genes in pham
- Manual Annotations of this start: 1 of 72
- Called 14.3% of time when present
- Phage (with cluster) where this start called: EvePickles_24 (AY),

Start 25:

- Found in 16 of 97 (16.5%) of genes in pham
- No Manual Annotations of this start.
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Satrap_27 (AY),

Start 26:

- Found in 3 of 97 (3.1%) of genes in pham
- Manual Annotations of this start: 3 of 72

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba_28 (AO3), Nostromo_27 (AO3), Vitus_27 (FL),

Start 27:

- Found in 71 of 97 (73.2%) of genes in pham
- Manual Annotations of this start: 52 of 72
- Called 94.4% of time when present
- Phage (with cluster) where this start called: AdaS_27 (AY), AllBusiness_24 (FF), Altostratus_20 (FS), Beagle_31 (AP2), BetaFish_30 (AP2), BigSherm_25 (FF), BillyTP_27 (AY), Bridgette_25 (FA), BruhMoment_25 (AP3), ChuckDuck_26 (FA), Cole_23 (FF), DillyDally_21 (singleton), Donatella_24 (FF), DreamEater_21 (FJ), Faja_24 (AY), Forrestell_27 (AP2), FosterFrank_26 (FA), GoldDust_27 (FL), GoodLuckBabe_25 (FF), Gorpy_27 (AY), Guinevere_25 (FF), Gusanita_23 (FF), Halloween_23 (FF), Hirko_27 (FL), Hive_30 (AP2), Ichiang_23 (FF), IsHungry_25 (FF), Isolde_27 (AY), JellyBread_27 (AY), Judy_26 (FA), Julie_25 (FF), Kabloowy_27 (AY), KayMoney_26 (FA), Kihatsu_26 (FF), Kubulix_31 (AP2), Kukla_22 (FJ), Lawnathon_27 (AY), LeBruni_26 (AY), Lenoxika_25 (FF), LittleRon_26 (FA), MUWow_26 (AY), Mapleville_26 (AY), MellowYellow_27 (AP2), Nandita_25 (FF), NewKitty_28 (AY), NyleyClemson_25 (AP2), Phrank15_26 (AY), PhuzzTulsa_28 (AP2), Pitbull_22 (FQ), Popper_23 (FF), Pucara_25 (FA), Pureglobe5_32 (AP2), QuinnAvery_25 (FF), Raphaella_27 (AY), RazzB_26 (AP2), Ryan_25 (FF), Saintcarr_25 (FF), Sakai_27 (AY), Schism_25 (FF), SonDevVon_26 (AY), Sporco_28 (AY), ToastyOats_27 (FF), Toodles_26 (FF), Vibaki_27 (FL), Vopal_28 (AY), Yonex_25 (FF), Zaheer_25 (FF),

Start 28:

- Found in 34 of 97 (35.1%) of genes in pham
- No Manual Annotations of this start.
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Gooberta_27 (FL), Music_27 (FL),

Summary by clusters:

There are 14 clusters represented in this pham: FQ, singleton, FS, FA, AP2, AP3, AP, AO3, FF, AY, AZ1, FJ, FL, FN,

Info for manual annotations of cluster AO3:

- Start number 26 was manually annotated 2 times for cluster AO3.

Info for manual annotations of cluster AP:

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

Info for manual annotations of cluster AP2:

- Start number 27 was manually annotated 7 times for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 27 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AY:

- Start number 20 was manually annotated 8 times for cluster AY.
- Start number 21 was manually annotated 1 time for cluster AY.
- Start number 27 was manually annotated 13 times for cluster AY.

Info for manual annotations of cluster AZ1:

- Start number 18 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster FA:

- Start number 20 was manually annotated 1 time for cluster FA.
- Start number 27 was manually annotated 4 times for cluster FA.

Info for manual annotations of cluster FF:

- Start number 27 was manually annotated 19 times for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 20 was manually annotated 1 time for cluster FJ.
- Start number 27 was manually annotated 2 times for cluster FJ.

Info for manual annotations of cluster FL:

- Start number 26 was manually annotated 1 time for cluster FL.
- Start number 27 was manually annotated 3 times for cluster FL.

Info for manual annotations of cluster FN:

- Start number 20 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FQ:

- Start number 20 was manually annotated 2 times for cluster FQ.
- Start number 27 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster FS:

- Start number 27 was manually annotated 1 time for cluster FS.

Gene Information:

Gene: Abba_28 Start: 23837, Stop: 24787, Start Num: 26

Candidate Starts for Abba_28:

(Start: 26 @23837 has 3 MA's), (39, 23951), (44, 24011), (52, 24065), (53, 24071), (59, 24110), (68, 24167), (80, 24287), (88, 24389), (112, 24572), (119, 24677),

Gene: AbbyDaisy_24 Start: 18360, Stop: 19346, Start Num: 20

Candidate Starts for AbbyDaisy_24:

(Start: 20 @18360 has 14 MA's), (25, 18408), (35, 18471), (41, 18537), (45, 18582), (64, 18714), (67, 18729), (74, 18810), (77, 18822), (82, 18876), (84, 18903), (88, 18945), (119, 19245), (123, 19281),

Gene: AdaS_27 Start: 19401, Stop: 20348, Start Num: 27

Candidate Starts for AdaS_27:

(Start: 27 @19401 has 52 MA's), (38, 19488), (60, 19680), (64, 19716), (68, 19734), (75, 19806), (88, 19947), (96, 19983), (102, 20049), (103, 20061), (104, 20070), (109, 20112), (115, 20151), (120, 20247),

Gene: AllBusiness_24 Start: 18932, Stop: 19873, Start Num: 27

Candidate Starts for AllBusiness_24:

(23, 18899), (Start: 27 @18932 has 52 MA's), (28, 18941), (31, 18965), (36, 19004), (40, 19049), (41, 19061), (43, 19085), (50, 19145), (55, 19175), (85, 19424), (87, 19460), (88, 19478), (103, 19589),

(117, 19754), (118, 19757),

Gene: Altostratus_20 Start: 16612, Stop: 17556, Start Num: 27

Candidate Starts for Altostratus_20:

(Start: 27 @16612 has 52 MA's), (28, 16621), (30, 16642), (36, 16687), (39, 16726), (43, 16768), (50, 16828), (55, 16858), (59, 16885), (74, 17011), (76, 17020), (87, 17143), (88, 17161), (103, 17272), (117, 17437), (118, 17440),

Gene: Anekin_26 Start: 19364, Stop: 20353, Start Num: 20

Candidate Starts for Anekin_26:

(Start: 20 @19364 has 14 MA's), (25, 19412), (29, 19430), (32, 19457), (34, 19469), (35, 19475), (40, 19529), (45, 19586), (72, 19796), (84, 19907), (88, 19949), (119, 20252),

Gene: Bauer_25 Start: 19072, Stop: 20058, Start Num: 20

Candidate Starts for Bauer_25:

(Start: 20 @19072 has 14 MA's), (25, 19120), (34, 19177), (35, 19183), (43, 19273), (45, 19294), (57, 19366), (64, 19426), (70, 19459), (84, 19615), (88, 19657), (119, 19957), (123, 19993),

Gene: Beagle_31 Start: 18239, Stop: 19177, Start Num: 27

Candidate Starts for Beagle_31:

(16, 18191), (Start: 27 @18239 has 52 MA's), (44, 18410), (62, 18539), (75, 18644), (88, 18776), (96, 18812), (104, 18899), (115, 18980), (121, 19091), (126, 19133),

Gene: BetaFish_30 Start: 18442, Stop: 19380, Start Num: 27

Candidate Starts for BetaFish_30:

(16, 18394), (Start: 27 @18442 has 52 MA's), (44, 18613), (62, 18742), (75, 18847), (88, 18979), (96, 19015), (104, 19102), (115, 19183), (121, 19294), (126, 19336),

Gene: Bhageatrice_29 Start: 20688, Stop: 21674, Start Num: 20

Candidate Starts for Bhageatrice_29:

(Start: 20 @20688 has 14 MA's), (25, 20736), (28, 20751), (32, 20781), (34, 20793), (35, 20799), (72, 21120), (84, 21231), (88, 21273), (98, 21351), (119, 21573),

Gene: BigSherm_25 Start: 18768, Stop: 19712, Start Num: 27

Candidate Starts for BigSherm_25:

(1, 18072), (2, 18099), (3, 18219), (Start: 21 @18735 has 1 MA's), (Start: 27 @18768 has 52 MA's), (47, 18957), (60, 19044), (64, 19080), (68, 19098), (75, 19170), (88, 19311), (96, 19347), (104, 19434), (109, 19476), (115, 19515), (124, 19653),

Gene: BillyTP_27 Start: 19185, Stop: 20132, Start Num: 27

Candidate Starts for BillyTP_27:

(Start: 27 @19185 has 52 MA's), (38, 19272), (60, 19464), (64, 19500), (68, 19518), (75, 19590), (88, 19731), (96, 19767), (102, 19833), (103, 19845), (104, 19854), (109, 19896), (115, 19935), (120, 20031),

Gene: Bridgette_25 Start: 19437, Stop: 20381, Start Num: 27

Candidate Starts for Bridgette_25:

(Start: 27 @19437 has 52 MA's), (28, 19446), (30, 19467), (37, 19521), (50, 19653), (54, 19674), (55, 19683), (59, 19710), (65, 19755), (87, 19968), (88, 19986), (103, 20097), (106, 20121), (112, 20172),

Gene: BruhMoment_25 Start: 17728, Stop: 18663, Start Num: 27

Candidate Starts for BruhMoment_25:

(11, 17551), (Start: 27 @17728 has 52 MA's), (34, 17779), (60, 18004), (64, 18040), (68, 18058), (75, 18130), (88, 18262), (92, 18271), (96, 18298), (115, 18466), (126, 18619),

Gene: Cassia_58 Start: 39217, Stop: 40194, Start Num: 18

Candidate Starts for Cassia_58:

(Start: 18 @39217 has 1 MA's), (25, 39268), (32, 39313), (42, 39406), (58, 39523), (90, 39814), (102, 39910), (108, 39973), (119, 40111),

Gene: ChuckDuck_26 Start: 19302, Stop: 20249, Start Num: 27

Candidate Starts for ChuckDuck_26:

(10, 19077), (Start: 27 @19302 has 52 MA's), (38, 19389), (60, 19581), (62, 19602), (64, 19617), (68, 19635), (75, 19707), (88, 19848), (96, 19884), (102, 19950), (103, 19962), (104, 19971), (115, 20052), (120, 20148),

Gene: Cole_23 Start: 18430, Stop: 19374, Start Num: 27

Candidate Starts for Cole_23:

(14, 18352), (23, 18397), (Start: 27 @18430 has 52 MA's), (28, 18439), (30, 18460), (33, 18478), (39, 18544), (50, 18646), (55, 18676), (59, 18703), (74, 18829), (81, 18898), (87, 18961), (88, 18979), (103, 19090), (125, 19327),

Gene: Crescenzo_27 Start: 19292, Stop: 20281, Start Num: 20

Candidate Starts for Crescenzo_27:

(Start: 20 @19292 has 14 MA's), (25, 19340), (29, 19358), (32, 19385), (34, 19397), (35, 19403), (40, 19457), (45, 19514), (72, 19724), (84, 19835), (88, 19877), (119, 20180),

Gene: DarwinJr_30 Start: 20596, Stop: 21585, Start Num: 20

Candidate Starts for DarwinJr_30:

(Start: 20 @20596 has 14 MA's), (25, 20644), (29, 20662), (32, 20689), (34, 20701), (35, 20707), (40, 20761), (45, 20818), (72, 21028), (84, 21139), (88, 21181), (119, 21484),

Gene: DillyDally_21 Start: 18052, Stop: 18999, Start Num: 27

Candidate Starts for DillyDally_21:

(Start: 21 @18010 has 1 MA's), (Start: 27 @18052 has 52 MA's), (38, 18136), (44, 18220), (48, 18244), (60, 18331), (68, 18385), (73, 18445), (75, 18457), (88, 18598), (94, 18619), (95, 18622), (96, 18634), (102, 18700), (103, 18712), (104, 18721), (115, 18802), (126, 18955),

Gene: Donatella_24 Start: 18894, Stop: 19838, Start Num: 27

Candidate Starts for Donatella_24:

(14, 18816), (23, 18861), (Start: 27 @18894 has 52 MA's), (28, 18903), (50, 19110), (55, 19140), (59, 19167), (74, 19293), (81, 19362), (87, 19425), (88, 19443), (103, 19554), (125, 19791),

Gene: DreamEater_21 Start: 18211, Stop: 19155, Start Num: 27

Candidate Starts for DreamEater_21:

(Start: 27 @18211 has 52 MA's), (28, 18220), (30, 18241), (37, 18295), (50, 18427), (53, 18445), (55, 18457), (59, 18484), (67, 18538), (88, 18760), (101, 18853), (106, 18895), (112, 18946), (116, 18991),

Gene: EvePickles_24 Start: 17997, Stop: 18980, Start Num: 21

Candidate Starts for EvePickles_24:

(Start: 21 @17997 has 1 MA's), (Start: 27 @18036 has 52 MA's), (38, 18120), (64, 18348), (68, 18366), (74, 18432), (75, 18438), (87, 18564), (88, 18579), (95, 18603), (96, 18615), (102, 18681), (103, 18693), (104, 18702), (117, 18861), (120, 18879), (124, 18921), (126, 18936),

Gene: Faja_24 Start: 17929, Stop: 18873, Start Num: 27

Candidate Starts for Faja_24:

(13, 17845), (Start: 27 @17929 has 52 MA's), (38, 18013), (44, 18097), (60, 18205), (68, 18259), (70, 18274), (75, 18331), (88, 18472), (93, 18484), (96, 18508), (115, 18676), (126, 18829),

Gene: Forrestell_27 Start: 16947, Stop: 17885, Start Num: 27

Candidate Starts for Forrestell_27:

(16, 16899), (Start: 27 @16947 has 52 MA's), (31, 16980), (34, 17001), (60, 17226), (68, 17280), (75, 17352), (88, 17484), (96, 17520), (102, 17586), (104, 17607), (115, 17688), (121, 17799), (124, 17826), (126, 17841),

Gene: FosterFrank_26 Start: 19374, Stop: 20324, Start Num: 27

Candidate Starts for FosterFrank_26:

(Start: 27 @19374 has 52 MA's), (44, 19545), (68, 19707), (75, 19779), (89, 19923), (96, 19962), (102, 20028),

Gene: GoldDust_27 Start: 25550, Stop: 26509, Start Num: 27

Candidate Starts for GoldDust_27:

(15, 25475), (Start: 27 @25550 has 52 MA's), (28, 25559), (39, 25658), (54, 25781), (59, 25817), (68, 25874), (76, 25952), (88, 26111), (99, 26183), (112, 26297), (119, 26402),

Gene: Gooberta_27 Start: 25558, Stop: 26508, Start Num: 28

Candidate Starts for Gooberta_27:

(15, 25474), (Start: 27 @25549 has 52 MA's), (28, 25558), (39, 25657), (54, 25780), (59, 25816), (68, 25873), (76, 25951), (88, 26110), (99, 26182), (112, 26296), (119, 26401),

Gene: GoodLuckBabe_25 Start: 19039, Stop: 19983, Start Num: 27

Candidate Starts for GoodLuckBabe_25:

(Start: 27 @19039 has 52 MA's), (28, 19048), (36, 19114), (37, 19123), (39, 19153), (40, 19159), (50, 19255), (55, 19285), (59, 19312), (61, 19324), (65, 19357), (69, 19375), (87, 19570), (88, 19588), (103, 19699), (117, 19864), (118, 19867),

Gene: Gorpy_27 Start: 19410, Stop: 20357, Start Num: 27

Candidate Starts for Gorpy_27:

(Start: 27 @19410 has 52 MA's), (38, 19497), (60, 19689), (64, 19725), (68, 19743), (75, 19815), (88, 19956), (96, 19992), (102, 20058), (103, 20070), (104, 20079), (109, 20121), (115, 20160), (120, 20256),

Gene: Guinevere_25 Start: 18629, Stop: 19573, Start Num: 27

Candidate Starts for Guinevere_25:

(Start: 27 @18629 has 52 MA's), (28, 18638), (30, 18659), (36, 18704), (37, 18713), (50, 18845), (55, 18875), (61, 18914), (87, 19160), (88, 19178), (103, 19289), (117, 19454), (118, 19457),

Gene: GumGum_27 Start: 19350, Stop: 20336, Start Num: 20

Candidate Starts for GumGum_27:

(Start: 20 @19350 has 14 MA's), (25, 19398), (28, 19413), (29, 19416), (32, 19443), (34, 19455), (35, 19461), (84, 19893), (88, 19935), (107, 20094), (119, 20235),

Gene: Gusanita_23 Start: 18476, Stop: 19420, Start Num: 27

Candidate Starts for Gusanita_23:

(24, 18443), (Start: 27 @18476 has 52 MA's), (28, 18485), (30, 18506), (37, 18560), (40, 18596), (50, 18692), (55, 18722), (59, 18749), (83, 18965), (87, 19007), (88, 19025), (106, 19160), (118, 19304),

Gene: Halloweekend_23 Start: 18394, Stop: 19338, Start Num: 27

Candidate Starts for Halloween_23:

(1, 17698), (2, 17725), (3, 17845), (Start: 21 @18361 has 1 MA's), (Start: 27 @18394 has 52 MA's), (47, 18583), (60, 18670), (64, 18706), (68, 18724), (75, 18796), (88, 18937), (96, 18973), (104, 19060), (109, 19102), (115, 19141), (124, 19279),

Gene: Hirko_27 Start: 25896, Stop: 26837, Start Num: 27

Candidate Starts for Hirko_27:

(Start: 27 @25896 has 52 MA's), (39, 26004), (52, 26118), (53, 26124), (59, 26163), (68, 26220), (76, 26298), (86, 26391), (88, 26439), (99, 26511), (111, 26619), (112, 26625), (119, 26730),

Gene: Hive_30 Start: 18323, Stop: 19261, Start Num: 27

Candidate Starts for Hive_30:

(16, 18275), (Start: 27 @18323 has 52 MA's), (62, 18623), (75, 18728), (88, 18860), (96, 18896), (104, 18983), (115, 19064), (121, 19175), (126, 19217),

Gene: Ichiang_23 Start: 18411, Stop: 19355, Start Num: 27

Candidate Starts for Ichiang_23:

(1, 17715), (2, 17742), (3, 17862), (Start: 21 @18378 has 1 MA's), (Start: 27 @18411 has 52 MA's), (47, 18600), (60, 18687), (64, 18723), (68, 18741), (75, 18813), (88, 18954), (96, 18990), (104, 19077), (109, 19119), (115, 19158), (124, 19296),

Gene: IsHungry_25 Start: 19021, Stop: 19965, Start Num: 27

Candidate Starts for IsHungry_25:

(Start: 27 @19021 has 52 MA's), (44, 19189), (47, 19210), (60, 19297), (68, 19351), (88, 19564), (96, 19600), (103, 19678),

Gene: Isolde_27 Start: 19236, Stop: 20183, Start Num: 27

Candidate Starts for Isolde_27:

(Start: 27 @19236 has 52 MA's), (38, 19323), (60, 19515), (64, 19551), (68, 19569), (75, 19641), (88, 19782), (96, 19818), (102, 19884), (103, 19896), (104, 19905), (109, 19947), (115, 19986), (120, 20082),

Gene: JakeTheSnake_27 Start: 19259, Stop: 20248, Start Num: 20

Candidate Starts for JakeTheSnake_27:

(Start: 20 @19259 has 14 MA's), (49, 19508), (63, 19607), (66, 19622), (72, 19685), (78, 19721), (88, 19853), (100, 19931), (103, 19964), (104, 19973), (117, 20129), (118, 20132), (121, 20162),

Gene: JellyBread_27 Start: 19394, Stop: 20341, Start Num: 27

Candidate Starts for JellyBread_27:

(Start: 27 @19394 has 52 MA's), (38, 19481), (47, 19586), (60, 19673), (64, 19709), (68, 19727), (75, 19799), (88, 19940), (96, 19976), (102, 20042), (103, 20054), (104, 20063), (109, 20105), (115, 20144), (120, 20240),

Gene: Judy_26 Start: 19687, Stop: 20631, Start Num: 27

Candidate Starts for Judy_26:

(Start: 27 @19687 has 52 MA's), (28, 19696), (30, 19717), (37, 19771), (50, 19903), (55, 19933), (59, 19960), (65, 20005), (87, 20218), (88, 20236), (97, 20284), (115, 20437), (117, 20512),

Gene: Julie_25 Start: 19080, Stop: 20024, Start Num: 27

Candidate Starts for Julie_25:

(23, 19047), (Start: 27 @19080 has 52 MA's), (28, 19089), (50, 19296), (53, 19314), (55, 19326), (59, 19353), (65, 19398), (74, 19479), (87, 19611), (88, 19629), (103, 19740), (125, 19977),

Gene: Kabloowy_27 Start: 19590, Stop: 20537, Start Num: 27

Candidate Starts for Kabloowy_27:

(9, 19362), (10, 19365), (Start: 27 @19590 has 52 MA's), (38, 19677), (52, 19818), (60, 19869), (64, 19905), (68, 19923), (75, 19995), (88, 20136), (96, 20172), (102, 20238), (115, 20340), (124, 20478),

Gene: KayMoney_26 Start: 19306, Stop: 20253, Start Num: 27

Candidate Starts for KayMoney_26:

(10, 19081), (Start: 27 @19306 has 52 MA's), (38, 19393), (60, 19585), (62, 19606), (64, 19621), (68, 19639), (75, 19711), (88, 19852), (96, 19888), (102, 19954), (103, 19966), (104, 19975), (115, 20056), (120, 20152),

Gene: Kihatsu_26 Start: 18954, Stop: 19898, Start Num: 27

Candidate Starts for Kihatsu_26:

(Start: 27 @18954 has 52 MA's), (28, 18963), (36, 19029), (37, 19038), (50, 19170), (55, 19200), (61, 19239), (87, 19485), (88, 19503), (103, 19614), (117, 19779), (118, 19782),

Gene: Kubulix_31 Start: 18432, Stop: 19370, Start Num: 27

Candidate Starts for Kubulix_31:

(16, 18384), (Start: 27 @18432 has 52 MA's), (62, 18732), (75, 18837), (88, 18969), (96, 19005), (104, 19092), (115, 19173), (121, 19284), (126, 19326),

Gene: Kukla_22 Start: 17420, Stop: 18367, Start Num: 27

Candidate Starts for Kukla_22:

(Start: 27 @17420 has 52 MA's), (38, 17504), (47, 17609), (60, 17696), (64, 17732), (68, 17750), (75, 17822), (89, 17966), (96, 18005), (102, 18071),

Gene: Lawnathon_27 Start: 19330, Stop: 20277, Start Num: 27

Candidate Starts for Lawnathon_27:

(Start: 27 @19330 has 52 MA's), (38, 19417), (60, 19609), (64, 19645), (68, 19663), (75, 19735), (88, 19876), (96, 19912), (102, 19978), (103, 19990), (104, 19999), (109, 20041), (115, 20080), (120, 20176),

Gene: LeBruni_26 Start: 19299, Stop: 20252, Start Num: 27

Candidate Starts for LeBruni_26:

(Start: 27 @19299 has 52 MA's), (38, 19386), (46, 19479), (48, 19494), (57, 19551), (68, 19632), (75, 19704), (88, 19851), (96, 19887), (102, 19953), (115, 20055), (121, 20166),

Gene: Lenoxika_25 Start: 18625, Stop: 19569, Start Num: 27

Candidate Starts for Lenoxika_25:

(Start: 27 @18625 has 52 MA's), (28, 18634), (30, 18655), (36, 18700), (37, 18709), (50, 18841), (55, 18871), (61, 18910), (87, 19156), (88, 19174), (103, 19285), (117, 19450), (118, 19453),

Gene: LittleRon_26 Start: 19275, Stop: 20222, Start Num: 27

Candidate Starts for LittleRon_26:

(10, 19050), (Start: 27 @19275 has 52 MA's), (38, 19362), (60, 19554), (62, 19575), (64, 19590), (68, 19608), (75, 19680), (88, 19821), (96, 19857), (102, 19923), (103, 19935), (104, 19944), (115, 20025), (120, 20121),

Gene: MUWow_26 Start: 19494, Stop: 20441, Start Num: 27

Candidate Starts for MUWow_26:

(Start: 27 @19494 has 52 MA's), (38, 19581), (60, 19773), (64, 19809), (68, 19827), (75, 19899), (88, 20040), (96, 20076), (102, 20142), (103, 20154), (104, 20163), (109, 20205), (115, 20244), (120, 20340),

Gene: Mapleville_26 Start: 19400, Stop: 20347, Start Num: 27

Candidate Starts for Mapleville_26:

(Start: 27 @19400 has 52 MA's), (38, 19487), (60, 19679), (64, 19715), (68, 19733), (75, 19805), (88, 19946), (96, 19982), (102, 20048), (103, 20060), (104, 20069), (109, 20111), (115, 20150), (120, 20246),

Gene: MellowYellow_27 Start: 16974, Stop: 17912, Start Num: 27

Candidate Starts for MellowYellow_27:

(16, 16926), (Start: 27 @16974 has 52 MA's), (62, 17274), (75, 17379), (88, 17511), (96, 17547), (104, 17634), (115, 17715), (121, 17826), (126, 17868),

Gene: Merpity_24 Start: 17092, Stop: 18069, Start Num: 20

Candidate Starts for Merpity_24:

(6, 16855), (12, 16990), (Start: 20 @17092 has 14 MA's), (28, 17155), (32, 17179), (34, 17191), (35, 17197), (40, 17251), (42, 17272), (43, 17287), (56, 17383), (77, 17539), (88, 17671), (100, 17749), (103, 17782), (105, 17803), (117, 17947), (118, 17950), (120, 17965), (121, 17980),

Gene: MrSmee_22 Start: 17092, Stop: 18069, Start Num: 20

Candidate Starts for MrSmee_22:

(6, 16855), (8, 16870), (12, 16990), (Start: 20 @17092 has 14 MA's), (28, 17155), (32, 17179), (34, 17191), (35, 17197), (40, 17251), (42, 17272), (43, 17287), (56, 17383), (77, 17539), (88, 17671), (100, 17749), (103, 17782), (105, 17803), (117, 17947),

Gene: Music_27 Start: 25409, Stop: 26359, Start Num: 28

Candidate Starts for Music_27:

(15, 25325), (Start: 27 @25400 has 52 MA's), (28, 25409), (39, 25508), (54, 25631), (59, 25667), (68, 25724), (76, 25802), (88, 25961), (99, 26033), (112, 26147), (119, 26252),

Gene: Nandita_25 Start: 18629, Stop: 19573, Start Num: 27

Candidate Starts for Nandita_25:

(Start: 27 @18629 has 52 MA's), (28, 18638), (30, 18659), (36, 18704), (37, 18713), (50, 18845), (55, 18875), (61, 18914), (87, 19160), (88, 19178), (103, 19289), (117, 19454), (118, 19457),

Gene: NewKitty_28 Start: 19631, Stop: 20578, Start Num: 27

Candidate Starts for NewKitty_28:

(Start: 27 @19631 has 52 MA's), (38, 19718), (60, 19910), (64, 19946), (68, 19964), (75, 20036), (88, 20177), (96, 20213), (102, 20279), (103, 20291), (104, 20300), (109, 20342), (115, 20381), (120, 20477),

Gene: Nostromo_27 Start: 23313, Stop: 24266, Start Num: 26

Candidate Starts for Nostromo_27:

(19, 23265), (Start: 26 @23313 has 3 MA's), (39, 23427), (52, 23541), (53, 23547), (59, 23586), (80, 23763), (88, 23865), (99, 23937), (112, 24051), (115, 24066), (119, 24156), (122, 24186),

Gene: NyleyClemson_25 Start: 16919, Stop: 17857, Start Num: 27

Candidate Starts for NyleyClemson_25:

(16, 16871), (Start: 27 @16919 has 52 MA's), (62, 17219), (75, 17324), (88, 17456), (96, 17492), (104, 17579), (115, 17660), (121, 17771), (126, 17813),

Gene: Persistence_26 Start: 19282, Stop: 20262, Start Num: 20

Candidate Starts for Persistence_26:

(Start: 20 @19282 has 14 MA's), (22, 19291), (32, 19369), (34, 19381), (56, 19573), (68, 19654), (77, 19729), (88, 19867), (100, 19945), (103, 19978), (104, 19987), (117, 20143), (118, 20146), (121, 20176),

Gene: PetriParty_23 Start: 18266, Stop: 19261, Start Num: 20

Candidate Starts for PetriParty_23:

(Start: 20 @18266 has 14 MA's), (34, 18374), (40, 18434), (49, 18515), (51, 18527), (63, 18614), (66, 18629), (72, 18692), (78, 18728), (88, 18866), (91, 18878), (105, 18998), (117, 19142), (118, 19145),

Gene: Phrank15_26 Start: 19335, Stop: 20282, Start Num: 27

Candidate Starts for Phrank15_26:

(Start: 27 @19335 has 52 MA's), (38, 19422), (60, 19614), (64, 19650), (68, 19668), (75, 19740), (88, 19881), (96, 19917), (102, 19983), (103, 19995), (104, 20004), (109, 20046), (115, 20085), (120, 20181),

Gene: PhuzzTulsa_28 Start: 18221, Stop: 19159, Start Num: 27

Candidate Starts for PhuzzTulsa_28:

(16, 18173), (Start: 27 @18221 has 52 MA's), (44, 18392), (62, 18521), (75, 18626), (88, 18758), (96, 18794), (104, 18881), (115, 18962), (121, 19073), (126, 19115),

Gene: Pitbull_22 Start: 16646, Stop: 17593, Start Num: 27

Candidate Starts for Pitbull_22:

(Start: 21 @16619 has 1 MA's), (Start: 27 @16646 has 52 MA's), (38, 16730), (48, 16838), (60, 16925), (68, 16979), (75, 17051), (88, 17192), (95, 17216), (96, 17228), (102, 17294), (103, 17306), (126, 17549),

Gene: Popper_23 Start: 18534, Stop: 19478, Start Num: 27

Candidate Starts for Popper_23:

(14, 18450), (23, 18495), (Start: 27 @18534 has 52 MA's), (36, 18609), (37, 18618), (50, 18750), (55, 18780), (59, 18807), (87, 19065), (88, 19083), (103, 19194), (110, 19260), (112, 19269), (114, 19281), (116, 19314), (125, 19431),

Gene: Pucara_25 Start: 19341, Stop: 20285, Start Num: 27

Candidate Starts for Pucara_25:

(Start: 27 @19341 has 52 MA's), (28, 19350), (37, 19425), (50, 19557), (55, 19587), (59, 19614), (65, 19659), (88, 19890), (106, 20025), (112, 20076), (116, 20121),

Gene: Pureglobe5_32 Start: 18448, Stop: 19386, Start Num: 27

Candidate Starts for Pureglobe5_32:

(16, 18400), (Start: 27 @18448 has 52 MA's), (44, 18619), (62, 18748), (75, 18853), (88, 18985), (96, 19021), (104, 19108), (115, 19189), (121, 19300), (126, 19342),

Gene: QuinnAvery_25 Start: 18777, Stop: 19721, Start Num: 27

Candidate Starts for QuinnAvery_25:

(1, 18072), (2, 18099), (3, 18219), (Start: 21 @18744 has 1 MA's), (Start: 27 @18777 has 52 MA's), (47, 18966), (60, 19053), (64, 19089), (68, 19107), (75, 19179), (88, 19320), (96, 19356), (104, 19443), (109, 19485), (115, 19524), (124, 19662),

Gene: RIPWilbur_28 Start: 17536, Stop: 18522, Start Num: 16

Candidate Starts for RIPWilbur_28:

(16, 17536), (Start: 27 @17584 has 52 MA's), (62, 17884), (75, 17989), (88, 18121), (96, 18157), (104, 18244), (115, 18325), (121, 18436), (126, 18478),

Gene: Ranunculus_24 Start: 17342, Stop: 18316, Start Num: 17

Candidate Starts for Ranunculus_24:

(Start: 17 @17342 has 1 MA's), (25, 17390), (28, 17405), (29, 17408), (41, 17519), (43, 17543), (71, 17762), (72, 17774), (74, 17792), (88, 17924), (110, 18101), (120, 18218),

Gene: Raphaella_27 Start: 19401, Stop: 20348, Start Num: 27

Candidate Starts for Raphaella_27:

(Start: 27 @19401 has 52 MA's), (38, 19488), (60, 19680), (64, 19716), (68, 19734), (75, 19806), (88, 19947), (96, 19983), (102, 20049), (103, 20061), (104, 20070), (109, 20112), (115, 20151), (120, 20247),

Gene: Raqqa_24 Start: 18653, Stop: 19639, Start Num: 20

Candidate Starts for Raqqa_24:

(7, 18428), (Start: 20 @18653 has 14 MA's), (25, 18701), (28, 18716), (29, 18719), (32, 18746), (72, 19085), (84, 19196), (88, 19238), (119, 19538), (123, 19574),

Gene: RazzB_26 Start: 16747, Stop: 17685, Start Num: 27

Candidate Starts for RazzB_26:

(16, 16699), (Start: 27 @16747 has 52 MA's), (44, 16918), (62, 17047), (75, 17152), (88, 17284), (96, 17320), (104, 17407), (115, 17488), (121, 17599), (126, 17641),

Gene: RootBeer_22 Start: 17010, Stop: 17987, Start Num: 20

Candidate Starts for RootBeer_22:

(4, 16677), (5, 16746), (7, 16785), (Start: 20 @17010 has 14 MA's), (25, 17055), (32, 17100), (88, 17592), (100, 17670), (111, 17772), (117, 17868), (120, 17886),

Gene: Ryan_25 Start: 19219, Stop: 20163, Start Num: 27

Candidate Starts for Ryan_25:

(Start: 27 @19219 has 52 MA's), (28, 19228), (36, 19294), (37, 19303), (39, 19333), (40, 19339), (50, 19435), (55, 19465), (59, 19492), (61, 19504), (65, 19537), (87, 19750), (88, 19768), (103, 19879), (117, 20044), (118, 20047),

Gene: Saintcarr_25 Start: 18775, Stop: 19719, Start Num: 27

Candidate Starts for Saintcarr_25:

(14, 18697), (23, 18742), (Start: 27 @18775 has 52 MA's), (28, 18784), (30, 18805), (39, 18889), (40, 18895), (50, 18991), (55, 19021), (59, 19048), (61, 19060), (65, 19093), (87, 19306), (88, 19324), (103, 19435), (106, 19459), (117, 19600), (118, 19603),

Gene: Sakai_27 Start: 19410, Stop: 20357, Start Num: 27

Candidate Starts for Sakai_27:

(Start: 27 @19410 has 52 MA's), (38, 19497), (60, 19689), (64, 19725), (68, 19743), (75, 19815), (88, 19956), (96, 19992), (102, 20058), (103, 20070), (104, 20079), (109, 20121), (115, 20160), (120, 20256),

Gene: Satrap_27 Start: 19370, Stop: 20308, Start Num: 25

Candidate Starts for Satrap_27:

(Start: 20 @19322 has 14 MA's), (25, 19370), (29, 19388), (35, 19433), (40, 19487), (45, 19544), (64, 19676), (67, 19691), (77, 19784), (84, 19865), (88, 19907), (115, 20120), (119, 20207),

Gene: Schism_25 Start: 18629, Stop: 19573, Start Num: 27

Candidate Starts for Schism_25:

(Start: 27 @18629 has 52 MA's), (28, 18638), (30, 18659), (36, 18704), (37, 18713), (50, 18845), (55, 18875), (61, 18914), (87, 19160), (88, 19178), (103, 19289), (117, 19454), (118, 19457),

Gene: Seahorse_28 Start: 19765, Stop: 20751, Start Num: 20

Candidate Starts for Seahorse_28:

(Start: 20 @19765 has 14 MA's), (25, 19813), (29, 19831), (32, 19858), (34, 19870), (35, 19876), (72, 20197), (79, 20257), (84, 20308), (88, 20350), (119, 20650),

Gene: Shukran_27 Start: 19322, Stop: 20308, Start Num: 20

Candidate Starts for Shukran_27:

(Start: 20 @19322 has 14 MA's), (25, 19370), (29, 19388), (35, 19433), (40, 19487), (45, 19544), (64, 19676), (67, 19691), (77, 19784), (84, 19865), (88, 19907), (115, 20120), (119, 20207),

Gene: Skitty_22 Start: 17092, Stop: 18069, Start Num: 20

Candidate Starts for Skitty_22:

(6, 16855), (8, 16870), (12, 16990), (Start: 20 @17092 has 14 MA's), (28, 17155), (32, 17179), (34, 17191), (35, 17197), (40, 17251), (42, 17272), (43, 17287), (56, 17383), (77, 17539), (88, 17671), (100, 17749), (103, 17782), (105, 17803), (117, 17947),

Gene: SonDevVon_26 Start: 19403, Stop: 20350, Start Num: 27

Candidate Starts for SonDevVon_26:

(Start: 27 @19403 has 52 MA's), (38, 19490), (60, 19682), (64, 19718), (68, 19736), (75, 19808), (88, 19949), (96, 19985), (102, 20051), (103, 20063), (104, 20072), (109, 20114), (115, 20153), (120, 20249),

Gene: Sporco_28 Start: 19458, Stop: 20405, Start Num: 27

Candidate Starts for Sporco_28:

(Start: 27 @19458 has 52 MA's), (60, 19737), (64, 19773), (68, 19791), (75, 19863), (88, 20004), (96, 20040), (102, 20106), (103, 20118), (104, 20127), (109, 20169), (115, 20208), (120, 20304),

Gene: Tiff81_28 Start: 19493, Stop: 20479, Start Num: 20

Candidate Starts for Tiff81_28:

(Start: 20 @19493 has 14 MA's), (25, 19541), (28, 19556), (29, 19559), (32, 19586), (34, 19598), (35, 19604), (45, 19715), (72, 19925), (84, 20036), (88, 20078), (119, 20378),

Gene: ToastyOats_27 Start: 19233, Stop: 20177, Start Num: 27

Candidate Starts for ToastyOats_27:

(14, 19152), (23, 19197), (Start: 27 @19233 has 52 MA's), (28, 19242), (30, 19263), (37, 19317), (39, 19347), (40, 19353), (50, 19449), (55, 19479), (59, 19506), (61, 19518), (65, 19551), (87, 19764), (88, 19782), (103, 19893), (106, 19917), (117, 20058), (118, 20061),

Gene: Toodles_26 Start: 19062, Stop: 20003, Start Num: 27

Candidate Starts for Toodles_26:

(23, 19029), (Start: 27 @19062 has 52 MA's), (28, 19071), (31, 19095), (36, 19134), (40, 19179), (41, 19191), (43, 19215), (50, 19275), (55, 19305), (70, 19404), (85, 19554), (87, 19590), (88, 19608), (103, 19719), (117, 19884), (118, 19887),

Gene: TripleJ_24 Start: 18283, Stop: 19278, Start Num: 20

Candidate Starts for TripleJ_24:

(Start: 20 @18283 has 14 MA's), (34, 18391), (40, 18451), (49, 18532), (51, 18544), (63, 18631), (66, 18646), (72, 18709), (78, 18745), (88, 18883), (91, 18895), (105, 19015), (117, 19159), (118, 19162),

Gene: Vibaki_27 Start: 25425, Stop: 26384, Start Num: 27

Candidate Starts for Vibaki_27:

(15, 25350), (Start: 27 @25425 has 52 MA's), (28, 25434), (39, 25533), (54, 25656), (59, 25692), (68, 25749), (76, 25827), (88, 25986), (99, 26058), (112, 26172), (119, 26277),

Gene: Vitus_27 Start: 22213, Stop: 23169, Start Num: 26

Candidate Starts for Vitus_27:

(Start: 26 @22213 has 3 MA's), (39, 22327), (52, 22441), (53, 22447), (59, 22486), (68, 22543), (76, 22621), (80, 22663), (88, 22774), (98, 22843), (103, 22882), (112, 22957), (113, 22966), (119, 23062), (122, 23092),

Gene: Vopal_28 Start: 19473, Stop: 20420, Start Num: 27

Candidate Starts for Vopal_28:

(Start: 27 @19473 has 52 MA's), (38, 19560), (60, 19752), (64, 19788), (68, 19806), (75, 19878), (88, 20019), (96, 20055), (102, 20121), (103, 20133), (104, 20142), (109, 20184), (115, 20223), (120, 20319),

Gene: Yonex_25 Start: 19219, Stop: 20163, Start Num: 27

Candidate Starts for Yonex_25:

(Start: 27 @19219 has 52 MA's), (28, 19228), (36, 19294), (37, 19303), (39, 19333), (40, 19339), (50, 19435), (55, 19465), (59, 19492), (61, 19504), (65, 19537), (87, 19750), (88, 19768), (103, 19879), (117, 20044), (118, 20047),

Gene: Zaheer_25 Start: 19308, Stop: 20252, Start Num: 27

Candidate Starts for Zaheer_25:

(Start: 27 @19308 has 52 MA's), (28, 19317), (36, 19383), (37, 19392), (39, 19422), (40, 19428), (50, 19524), (55, 19554), (59, 19581), (61, 19593), (65, 19626), (87, 19839), (88, 19857), (103, 19968), (117, 20133), (118, 20136),

Gene: Zucker_24 Start: 18385, Stop: 19371, Start Num: 20

Candidate Starts for Zucker_24:

(Start: 20 @18385 has 14 MA's), (25, 18433), (34, 18490), (35, 18496), (43, 18586), (45, 18607), (57, 18679), (64, 18739), (70, 18772), (84, 18928), (88, 18970), (119, 19270), (123, 19306),