

1: GMA7_3

2: GTE7_3

3: Austin_12+2

4: Adgers_1

5: Cheims_1

6: CathyBurka_11+6

7: BigShaq_11

8: SteveFrensh_10

9: Eggsie_1

10: Flakey_11+3

11: Bonenark_11+3

12: Jellybones_11+1

13: Diabla_1

14: FelixAlejandro_12

15: Hotorobu_11+1

16: PierreThree_11+3

17: Poland_11

18: RoyalG_12

19: Sombren_11

20: Worcestershire_1

21: RemRem_12

22: GourdThomas_1

23: PokyPuppy_610

24: MrWorms_6

25: Jams_8

26: Damp_1

27: Kasein_1

28: Teateal_11+1

29: Kvothe_1

30: ASerpRept_11

31: Niagara_1

32: Teech_1

33: Hollow_1

34: DemosJenes_11

35: Orchid_11+3

36: RobinSpecies_15

37: Cameron_11

38: Gmalal_1

39: GordTrnk_3

40: GordDura_3

41: GMA3_1

42: Jumba_1

43: DocB7_104

44: Mibo2_8

45: Reyna_1

46: Frogglehumper_30

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 212561 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212561 has 74 members, 16 are drafts.

Phages represented in each track:

- Track 1 : GMA7_3
- Track 2 : GTE7_3
- Track 3 : Austin_12, HayZem_12, Amore2_12
- Track 4 : Adgers_12
- Track 5 : Chelms_11
- Track 6 : CathyBurgh_11, Exiguo_11, Sam12_11, Ekhein_11, Lizzo_11, Squibbles_11, Beaver_11
- Track 7 : BigShaq_11, Crete_12
- Track 8 : SteveFrench_10
- Track 9 : Eggsie_11
- Track 10 : Flakey_11, Barbochs_11, Breezic_11, Gorko_11
- Track 11 : Boneham_11, Butterball_11, CinnamonToast_12, BirksAndSocks_11
- Track 12 : Jellybones_11, John316_11
- Track 13 : Diabla_10
- Track 14 : FelixAlejandro_12
- Track 15 : Hotorobo_11, Monty_10
- Track 16 : PierreThree_11, BenoitCattle_11, Linetti_12, Dakiti_11
- Track 17 : Poland_12, Msay19_12
- Track 18 : RoyalG_12
- Track 19 : Sombrero_11
- Track 20 : Worcestershire_11
- Track 21 : RemRem_12
- Track 22 : GourdThymes_11
- Track 23 : PokyPuppy_10
- Track 24 : MrWormie_8
- Track 25 : Jams_8
- Track 26 : Damp_8
- Track 27 : Kaseim_8, Shelley_8
- Track 28 : Teatealatte_11, Tredge_11
- Track 29 : Kvothe_11, Benczkowski14_11, Katyusha_11
- Track 30 : ASerpRocky_11
- Track 31 : Niagara_11
- Track 32 : Teech_11
- Track 33 : Hollow_11
- Track 34 : Demosthenes_11
- Track 35 : Orchid_11, Kampe_11, Gibbles_10, PatrickStar_11
- Track 36 : RobinSparkles_15

- Track 37 : Camerico_11
- Track 38 : Gmala1_3
- Track 39 : GordTnk2_3
- Track 40 : GordDuk1_3
- Track 41 : GMA3_3
- Track 42 : Jumbo_8
- Track 43 : DocB7_004
- Track 44 : Mbo2_8
- Track 45 : Reynauld_16
- Track 46 : Trogglehumper_30

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 48 of the 58 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adgers_12, Amore2_12, Austin_12, Barbochs_11, Beaver_11, BenoitCattle_11, BigShaq_11, BirksAndSocks_11, Boneham_11, Breezic_11, Butterball_11, Camerico_11, CathyBurgh_11, Chelms_11, CinnamonToast_12, Crete_12, Dakiti_11, Damp_8, Diabla_10, DocB7_004, Eggsie_11, Ekhein_11, Exiguo_11, FelixAlejandro_12, Flakey_11, GMA3_3, GMA7_3, Gibbles_10, Gmala1_3, GordDuk1_3, GordTnk2_3, Gorko_11, GourdThymes_11, HayZem_12, Hotorobo_11, Jams_8, Jellybones_11, John316_11, Jumbo_8, Kampe_11, Kaseim_8, Linetti_12, Lizzo_11, Mbo2_8, Monty_10, MrWormie_8, Msay19_12, Orchid_11, PatrickStar_11, PierreThree_11, PokyPuppy_10, Poland_12, RemRem_12, Reynauld_16, RobinSparkles_15, RoyalG_12, Sam12_11, Shelley_8, Sombrero_11, Squibbles_11, SteveFrench_10, Worcestershire_11,

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

- GTE7_3,

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

- ASerpRocky_11, Benczkowski14_11, Demosthenes_11, Hollow_11, Katyusha_11, Kvothe_11, Niagara_11, Teatealatte_11, Teech_11, Tredge_11, Trogglehumper_30,

Summary by start number:

Start 1:

- Found in 1 of 74 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trogglehumper_30 (singleton),

Start 10:

- Found in 6 of 74 (8.1%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: GTE7_3 (CS1),

Start 11:

- Found in 63 of 74 (85.1%) of genes in pham
- Manual Annotations of this start: 48 of 58
- Called 98.4% of time when present
- Phage (with cluster) where this start called: Adgers_12 (CS2), Amore2_12 (CS1), Austin_12 (CS1), Barbochs_11 (CS2), Beaver_11 (CS2), BenoitCattle_11 (CS2), BigShaq_11 (CS2), BirksAndSocks_11 (CS2), Boneham_11 (CS2), Breezic_11 (CS2), Butterball_11 (CS2), Camerico_11 (DF), CathyBurgh_11 (CS2), Chelms_11 (CS2), CinnamonToast_12 (CS2), Crete_12 (CS2), Dakiti_11 (CS2), Damp_8 (CS3), Diabla_10 (CS2), DocB7_004 (singleton), Eggsie_11 (CS2), Ekhein_11 (CS2), Exiguo_11 (CS2), FelixAlejandro_12 (CS2), Flakey_11 (CS2), GMA3_3 (DF2), GMA7_3 (CS1), Gibbles_10 (CX), Gmala1_3 (DF1), GordDuk1_3 (DF1), GordTnk2_3 (DF1), Gorko_11 (CS2), GourdThymes_11 (CS2), HayZem_12 (CS1), Hotorobo_11 (CS2), Jams_8 (CS3), Jellybones_11 (CS2), John316_11 (CS2), Jumbo_8 (DF3), Kampe_11 (CX), Kaseim_8 (CS3), Linetti_12 (CS2), Lizzo_11 (CS2), Mbo2_8 (singleton), Monty_10 (CS2), MrWormie_8 (CS3), Msay19_12 (CS2), Orchid_11 (CX), PatrickStar_11 (CX), PierreThree_11 (CS2), PokyPuppy_10 (CS2), Poland_12 (CS2), RemRem_12 (CS2), Reynauld_16 (singleton), RobinSparkles_15 (CX), RoyalG_12 (CS2), Sam12_11 (CS2), Shelley_8 (CS3), Sombrero_11 (CS2), Squibbles_11 (CS2), SteveFrench_10 (CS2), Worcestershire_11 (CS2),

Start 12:

- Found in 10 of 74 (13.5%) of genes in pham
- Manual Annotations of this start: 9 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky_11 (CS4), Benczkowski14_11 (CS4), Demosthenes_11 (CS4), Hollow_11 (CS4), Katyusha_11 (CS4), Kvothe_11 (CS4), Niagara_11 (CS4), Teatealatte_11 (CS4), Teech_11 (CS4), Tredge_11 (CS4),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, DF, DF1, DF3, DF2, CX, CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 11 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 11 was manually annotated 33 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 11 was manually annotated 4 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 12 was manually annotated 9 times for cluster CS4.

Info for manual annotations of cluster CX:

- Start number 11 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster DF:

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

Info for manual annotations of cluster DF3:

•Start number 11 was manually annotated 1 time for cluster DF3.

Gene Information:

Gene: ASerpRocky_11 Start: 10816, Stop: 12555, Start Num: 12

Candidate Starts for ASerpRocky_11:

(9, 10810), (Start: 12 @10816 has 9 MA's), (16, 10849), (26, 10939), (31, 11005), (33, 11023), (35, 11059), (38, 11071), (39, 11074), (46, 11149), (48, 11164), (50, 11212), (53, 11251), (57, 11290), (63, 11353), (66, 11404), (70, 11434), (78, 11551), (85, 11623), (91, 11662), (92, 11665), (95, 11695), (97, 11725), (99, 11746), (104, 11794), (113, 11878), (115, 11890), (122, 11950), (132, 12070), (133, 12073), (143, 12136), (153, 12304), (169, 12442), (175, 12493), (183, 12538),

Gene: Adgers_12 Start: 9331, Stop: 11055, Start Num: 11

Candidate Starts for Adgers_12:

(Start: 11 @9331 has 48 MA's), (28, 9463), (29, 9484), (33, 9532), (38, 9580), (45, 9655), (49, 9682), (68, 9934), (70, 9940), (85, 10129), (91, 10168), (95, 10201), (99, 10252), (104, 10300), (109, 10333), (113, 10384), (115, 10396), (117, 10408), (119, 10420), (122, 10456), (134, 10588), (156, 10831), (160, 10870), (163, 10891), (164, 10900), (165, 10924), (167, 10939),

Gene: Amore2_12 Start: 9385, Stop: 11100, Start Num: 11

Candidate Starts for Amore2_12:

(10, 9382), (Start: 11 @9385 has 48 MA's), (16, 9418), (28, 9514), (30, 9559), (33, 9583), (38, 9631), (49, 9733), (53, 9811), (70, 9997), (85, 10186), (92, 10228), (95, 10258), (99, 10309), (104, 10357), (113, 10441), (115, 10453), (119, 10477), (122, 10513), (130, 10615), (157, 10885), (162, 10924), (166, 10978), (167, 10981),

Gene: Austin_12 Start: 9385, Stop: 11100, Start Num: 11

Candidate Starts for Austin_12:

(10, 9382), (Start: 11 @9385 has 48 MA's), (16, 9418), (28, 9514), (30, 9559), (33, 9583), (38, 9631), (49, 9733), (53, 9811), (70, 9997), (85, 10186), (92, 10228), (95, 10258), (99, 10309), (104, 10357), (113, 10441), (115, 10453), (119, 10477), (122, 10513), (130, 10615), (157, 10885), (162, 10924), (166, 10978), (167, 10981),

Gene: Barbochs_11 Start: 9166, Stop: 10893, Start Num: 11

Candidate Starts for Barbochs_11:

(Start: 11 @9166 has 48 MA's), (26, 9283), (28, 9298), (29, 9319), (33, 9367), (38, 9415), (40, 9427), (45, 9490), (47, 9505), (49, 9517), (50, 9556), (70, 9775), (85, 9964), (95, 10036), (99, 10087), (104, 10135), (113, 10219), (115, 10231), (117, 10243), (119, 10255), (122, 10291), (128, 10384), (134, 10423), (156, 10669), (160, 10708), (163, 10729), (164, 10738), (165, 10762), (167, 10777),

Gene: Beaver_11 Start: 9177, Stop: 10901, Start Num: 11

Candidate Starts for Beaver_11:

(Start: 11 @9177 has 48 MA's), (26, 9294), (28, 9309), (29, 9330), (33, 9378), (38, 9426), (45, 9501), (47, 9516), (49, 9528), (70, 9786), (85, 9975), (95, 10047), (99, 10098), (104, 10146), (113, 10230), (115, 10242), (117, 10254), (119, 10266), (122, 10302), (128, 10395), (134, 10434), (156, 10677), (160, 10716), (163, 10737), (164, 10746), (165, 10770), (167, 10785),

Gene: Benczkowski14_11 Start: 10878, Stop: 12617, Start Num: 12

Candidate Starts for Benczkowski14_11:

(9, 10872), (Start: 12 @10878 has 9 MA's), (16, 10911), (26, 11001), (31, 11067), (33, 11085), (35, 11121), (38, 11133), (39, 11136), (46, 11211), (48, 11226), (50, 11274), (53, 11313), (57, 11352), (63, 11415), (65, 11460), (66, 11466), (67, 11478), (70, 11496), (80, 11646), (85, 11685), (91, 11724), (92, 11727), (95, 11757), (99, 11808), (104, 11856), (113, 11940), (115, 11952), (121, 12003), (122, 12012), (132, 12132), (133, 12135), (143, 12198), (153, 12366), (169, 12504), (175, 12555), (183, 12600),

Gene: BenoitCattle_11 Start: 9161, Stop: 10888, Start Num: 11

Candidate Starts for BenoitCattle_11:

(Start: 11 @9161 has 48 MA's), (28, 9293), (29, 9314), (33, 9362), (38, 9410), (42, 9455), (45, 9485), (49, 9512), (50, 9551), (58, 9644), (70, 9770), (85, 9959), (95, 10031), (99, 10082), (104, 10130), (108, 10160), (113, 10214), (115, 10226), (117, 10238), (119, 10250), (122, 10286), (126, 10367), (128, 10379), (130, 10388), (156, 10664), (160, 10703), (163, 10724), (164, 10733), (165, 10757), (167, 10772),

Gene: BigShaq_11 Start: 9163, Stop: 10890, Start Num: 11

Candidate Starts for BigShaq_11:

(Start: 11 @9163 has 48 MA's), (26, 9280), (28, 9295), (29, 9316), (33, 9364), (38, 9412), (42, 9457), (45, 9487), (49, 9514), (50, 9553), (58, 9646), (70, 9772), (85, 9961), (95, 10033), (99, 10084), (104, 10132), (108, 10162), (113, 10216), (115, 10228), (117, 10240), (119, 10252), (122, 10288), (126, 10369), (128, 10381), (130, 10390), (156, 10666), (160, 10705), (163, 10726), (164, 10735), (165, 10759), (167, 10774),

Gene: BirksAndSocks_11 Start: 9166, Stop: 10890, Start Num: 11

Candidate Starts for BirksAndSocks_11:

(Start: 11 @9166 has 48 MA's), (28, 9298), (29, 9319), (33, 9367), (38, 9415), (45, 9490), (49, 9517), (50, 9556), (68, 9769), (70, 9775), (85, 9964), (91, 10003), (95, 10036), (99, 10087), (104, 10135), (109, 10168), (113, 10219), (115, 10231), (117, 10243), (119, 10255), (122, 10291), (134, 10423), (156, 10666), (160, 10705), (163, 10726), (164, 10735), (165, 10759), (167, 10774),

Gene: Boneham_11 Start: 9165, Stop: 10889, Start Num: 11

Candidate Starts for Boneham_11:

(Start: 11 @9165 has 48 MA's), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (49, 9516), (50, 9555), (68, 9768), (70, 9774), (85, 9963), (91, 10002), (95, 10035), (99, 10086), (104, 10134), (109, 10167), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (134, 10422), (156, 10665), (160, 10704), (163, 10725), (164, 10734), (165, 10758), (167, 10773),

Gene: Breezic_11 Start: 9177, Stop: 10904, Start Num: 11

Candidate Starts for Breezic_11:

(Start: 11 @9177 has 48 MA's), (26, 9294), (28, 9309), (29, 9330), (33, 9378), (38, 9426), (40, 9438), (45, 9501), (47, 9516), (49, 9528), (50, 9567), (70, 9786), (85, 9975), (95, 10047), (99, 10098), (104, 10146), (113, 10230), (115, 10242), (117, 10254), (119, 10266), (122, 10302), (128, 10395), (134, 10434), (156, 10680), (160, 10719), (163, 10740), (164, 10749), (165, 10773), (167, 10788),

Gene: Butterball_11 Start: 9165, Stop: 10889, Start Num: 11

Candidate Starts for Butterball_11:

(Start: 11 @9165 has 48 MA's), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (49, 9516), (50, 9555), (68, 9768), (70, 9774), (85, 9963), (91, 10002), (95, 10035), (99, 10086), (104, 10134), (109, 10167), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (134, 10422), (156, 10665), (160, 10704), (163, 10725), (164, 10734), (165, 10758), (167, 10773),

Gene: Camerico_11 Start: 10289, Stop: 12118, Start Num: 11

Candidate Starts for Camerico_11:

(10, 10286), (Start: 11 @10289 has 48 MA's), (14, 10301), (33, 10493), (35, 10529), (36, 10532), (37, 10535), (38, 10541), (49, 10646), (52, 10721), (58, 10778), (59, 10823), (67, 10961), (70, 10979), (72, 11009), (76, 11057), (83, 11150), (85, 11168), (91, 11207), (94, 11231), (96, 11255), (98, 11279), (101, 11318), (109, 11372), (112, 11417), (113, 11423), (118, 11450), (119, 11459), (122, 11495), (127, 11585), (128, 11588), (130, 11597), (131, 11600), (136, 11636), (151, 11849), (170, 12002), (177, 12053),

Gene: CathyBurgh_11 Start: 9165, Stop: 10892, Start Num: 11

Candidate Starts for CathyBurgh_11:

(Start: 11 @9165 has 48 MA's), (26, 9282), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (47, 9504), (49, 9516), (70, 9774), (85, 9963), (95, 10035), (99, 10086), (104, 10134), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (128, 10383), (134, 10422), (156, 10668), (160, 10707), (163, 10728), (164, 10737), (165, 10761), (167, 10776),

Gene: Chelms_11 Start: 9163, Stop: 10890, Start Num: 11

Candidate Starts for Chelms_11:

(Start: 11 @9163 has 48 MA's), (26, 9280), (28, 9295), (29, 9316), (33, 9364), (38, 9412), (42, 9457), (45, 9487), (49, 9514), (50, 9553), (58, 9646), (70, 9772), (85, 9961), (95, 10033), (99, 10084), (104, 10132), (108, 10162), (113, 10216), (115, 10228), (117, 10240), (119, 10252), (122, 10288), (126, 10369), (130, 10390), (156, 10666), (160, 10705), (163, 10726), (164, 10735), (165, 10759), (167, 10774),

Gene: CinnamonToast_12 Start: 9201, Stop: 10925, Start Num: 11

Candidate Starts for CinnamonToast_12:

(Start: 11 @9201 has 48 MA's), (28, 9333), (29, 9354), (33, 9402), (38, 9450), (45, 9525), (49, 9552), (50, 9591), (68, 9804), (70, 9810), (85, 9999), (91, 10038), (95, 10071), (99, 10122), (104, 10170), (109, 10203), (113, 10254), (115, 10266), (117, 10278), (119, 10290), (122, 10326), (134, 10458), (156, 10701), (160, 10740), (163, 10761), (164, 10770), (165, 10794), (167, 10809),

Gene: Crete_12 Start: 9414, Stop: 11141, Start Num: 11

Candidate Starts for Crete_12:

(Start: 11 @9414 has 48 MA's), (26, 9531), (28, 9546), (29, 9567), (33, 9615), (38, 9663), (42, 9708), (45, 9738), (49, 9765), (50, 9804), (58, 9897), (70, 10023), (85, 10212), (95, 10284), (99, 10335), (104, 10383), (108, 10413), (113, 10467), (115, 10479), (117, 10491), (119, 10503), (122, 10539), (126, 10620), (128, 10632), (130, 10641), (156, 10917), (160, 10956), (163, 10977), (164, 10986), (165, 11010), (167, 11025),

Gene: Dakiti_11 Start: 9163, Stop: 10890, Start Num: 11

Candidate Starts for Dakiti_11:

(Start: 11 @9163 has 48 MA's), (28, 9295), (29, 9316), (33, 9364), (38, 9412), (42, 9457), (45, 9487), (49, 9514), (50, 9553), (58, 9646), (70, 9772), (85, 9961), (95, 10033), (99, 10084), (104, 10132), (108, 10162), (113, 10216), (115, 10228), (117, 10240), (119, 10252), (122, 10288), (126, 10369), (128, 10381), (130, 10390), (156, 10666), (160, 10705), (163, 10726), (164, 10735), (165, 10759), (167, 10774),

Gene: Damp_8 Start: 8384, Stop: 10111, Start Num: 11

Candidate Starts for Damp_8:

(Start: 11 @8384 has 48 MA's), (16, 8420), (26, 8501), (29, 8537), (33, 8585), (38, 8633), (45, 8708), (47, 8723), (49, 8735), (58, 8867), (61, 8897), (67, 8975), (70, 8993), (78, 9110), (85, 9182), (95, 9254), (97, 9284), (98, 9293), (99, 9305), (104, 9353), (115, 9449), (117, 9461), (119, 9473), (122, 9509), (130, 9611), (148, 9791), (156, 9887), (160, 9926), (163, 9947), (164, 9956), (165, 9980), (167, 9995), (168, 10004), (173, 10025),

Gene: Demosthenes_11 Start: 10786, Stop: 12525, Start Num: 12

Candidate Starts for Demosthenes_11:

(9, 10780), (Start: 12 @10786 has 9 MA's), (16, 10819), (26, 10909), (31, 10975), (33, 10993), (35, 11029), (38, 11041), (39, 11044), (45, 11116), (46, 11119), (48, 11134), (50, 11182), (53, 11221), (57, 11260), (65, 11368), (70, 11404), (78, 11521), (80, 11554), (81, 11560), (83, 11575), (85, 11593), (91, 11632), (92, 11635), (95, 11665), (99, 11716), (104, 11764), (113, 11848), (115, 11860), (122, 11920), (132, 12040), (133, 12043), (143, 12106), (153, 12274), (169, 12412), (175, 12463),

Gene: Diabla_10 Start: 8971, Stop: 10701, Start Num: 11

Candidate Starts for Diabla_10:

(Start: 11 @8971 has 48 MA's), (13, 8983), (17, 9019), (28, 9103), (29, 9124), (33, 9172), (38, 9220), (41, 9244), (45, 9295), (46, 9298), (49, 9322), (58, 9454), (70, 9580), (78, 9697), (85, 9769), (95, 9841), (99, 9892), (104, 9940), (113, 10024), (115, 10036), (117, 10048), (119, 10060), (122, 10096), (128, 10189), (134, 10228), (148, 10381), (156, 10477), (160, 10516), (163, 10537), (164, 10546), (165, 10570), (167, 10585),

Gene: DocB7_004 Start: 3689, Stop: 5428, Start Num: 11

Candidate Starts for DocB7_004:

(3, 3650), (Start: 11 @3689 has 48 MA's), (24, 3785), (33, 3890), (36, 3929), (38, 3938), (39, 3941), (44, 4007), (45, 4013), (49, 4040), (53, 4118), (64, 4250), (66, 4277), (70, 4307), (82, 4487), (85, 4508), (88, 4520), (99, 4631), (100, 4655), (104, 4679), (109, 4712), (113, 4763), (115, 4775), (116, 4778), (122, 4835), (130, 4937), (139, 4994), (150, 5141), (151, 5165), (158, 5228), (176, 5375), (181, 5402),

Gene: Eggsie_11 Start: 9171, Stop: 10901, Start Num: 11

Candidate Starts for Eggsie_11:

(Start: 11 @9171 has 48 MA's), (28, 9303), (29, 9324), (33, 9372), (38, 9420), (41, 9444), (45, 9495), (46, 9498), (49, 9522), (56, 9621), (58, 9654), (70, 9780), (85, 9969), (95, 10041), (99, 10092), (104, 10140), (113, 10224), (115, 10236), (117, 10248), (119, 10260), (122, 10296), (126, 10377), (128, 10389), (134, 10428), (148, 10581), (156, 10677), (160, 10716), (163, 10737), (164, 10746), (165, 10770), (167, 10785),

Gene: Ekhein_11 Start: 9165, Stop: 10889, Start Num: 11

Candidate Starts for Ekhein_11:

(Start: 11 @9165 has 48 MA's), (26, 9282), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (47, 9504), (49, 9516), (70, 9774), (85, 9963), (95, 10035), (99, 10086), (104, 10134), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (128, 10383), (134, 10422), (156, 10665), (160, 10704), (163, 10725), (164, 10734), (165, 10758), (167, 10773),

Gene: Exiguo_11 Start: 9177, Stop: 10901, Start Num: 11

Candidate Starts for Exiguo_11:

(Start: 11 @9177 has 48 MA's), (26, 9294), (28, 9309), (29, 9330), (33, 9378), (38, 9426), (45, 9501), (47, 9516), (49, 9528), (70, 9786), (85, 9975), (95, 10047), (99, 10098), (104, 10146), (113, 10230), (115, 10242), (117, 10254), (119, 10266), (122, 10302), (128, 10395), (134, 10434), (156, 10677), (160, 10716), (163, 10737), (164, 10746), (165, 10770), (167, 10785),

Gene: FelixAlejandro_12 Start: 9363, Stop: 11087, Start Num: 11

Candidate Starts for FelixAlejandro_12:

(Start: 11 @9363 has 48 MA's), (26, 9480), (28, 9495), (29, 9516), (33, 9564), (38, 9612), (45, 9687), (49, 9714), (50, 9753), (68, 9966), (70, 9972), (85, 10161), (91, 10200), (95, 10233), (99, 10284), (104, 10332), (113, 10416), (115, 10428), (117, 10440), (119, 10452), (122, 10488), (134, 10620), (156, 10863), (160, 10902), (163, 10923), (164, 10932), (167, 10971),

Gene: Flakey_11 Start: 9166, Stop: 10893, Start Num: 11

Candidate Starts for Flakey_11:

(Start: 11 @9166 has 48 MA's), (26, 9283), (28, 9298), (29, 9319), (33, 9367), (38, 9415), (40, 9427), (45, 9490), (47, 9505), (49, 9517), (50, 9556), (70, 9775), (85, 9964), (95, 10036), (99, 10087), (104, 10135), (113, 10219), (115, 10231), (117, 10243), (119, 10255), (122, 10291), (128, 10384), (134, 10423), (156, 10669), (160, 10708), (163, 10729), (164, 10738), (165, 10762), (167, 10777),

Gene: GMA3_3 Start: 4995, Stop: 6896, Start Num: 11

Candidate Starts for GMA3_3:

(Start: 11 @4995 has 48 MA's), (20, 5061), (31, 5190), (32, 5205), (33, 5208), (38, 5256), (40, 5268), (46, 5334), (49, 5358), (53, 5430), (55, 5448), (59, 5526), (70, 5676), (73, 5742), (76, 5754), (84, 5862), (85, 5865), (94, 5928), (96, 5952), (99, 5988), (105, 6042), (112, 6114), (119, 6156), (122, 6192), (123, 6201), (124, 6234), (129, 6288), (139, 6351), (146, 6462), (147, 6465), (161, 6678), (166, 6735), (179, 6822), (180, 6825),

Gene: GMA7_3 Start: 3574, Stop: 5289, Start Num: 11

Candidate Starts for GMA7_3:

(10, 3571), (Start: 11 @3574 has 48 MA's), (16, 3607), (28, 3703), (30, 3748), (33, 3772), (38, 3820), (49, 3922), (53, 4000), (66, 4156), (70, 4186), (85, 4375), (92, 4417), (95, 4447), (99, 4498), (104, 4546), (113, 4630), (115, 4642), (119, 4666), (122, 4702), (130, 4804), (157, 5074), (162, 5113), (166, 5167), (167, 5170),

Gene: GTE7_3 Start: 3556, Stop: 5274, Start Num: 10

Candidate Starts for GTE7_3:

(10, 3556), (Start: 11 @3559 has 48 MA's), (16, 3592), (28, 3688), (30, 3733), (33, 3757), (38, 3805), (49, 3907), (53, 3985), (70, 4171), (85, 4360), (92, 4402), (95, 4432), (99, 4483), (104, 4531), (113, 4615), (115, 4627), (119, 4651), (122, 4687), (130, 4789), (157, 5059), (162, 5098), (166, 5152), (167, 5155),

Gene: Gibbles_10 Start: 8889, Stop: 10658, Start Num: 11

Candidate Starts for Gibbles_10:

(7, 8877), (Start: 11 @8889 has 48 MA's), (27, 9009), (32, 9084), (33, 9087), (35, 9123), (38, 9135), (42, 9180), (49, 9237), (50, 9276), (51, 9309), (52, 9312), (55, 9333), (69, 9528), (71, 9546), (72, 9561), (75, 9603), (76, 9609), (85, 9720), (90, 9741), (93, 9765), (95, 9792), (99, 9843), (101, 9870), (108, 9921), (113, 9975), (117, 9999), (118, 10002), (119, 10011), (122, 10047), (136, 10188), (182, 10626), (183, 10635),

Gene: Gmala1_3 Start: 5276, Stop: 7147, Start Num: 11

Candidate Starts for Gmala1_3:

(Start: 11 @5276 has 48 MA's), (21, 5348), (31, 5462), (33, 5480), (38, 5528), (40, 5540), (43, 5585), (44, 5597), (49, 5630), (55, 5726), (59, 5819), (60, 5849), (62, 5870), (68, 5963), (70, 5969), (76, 6047), (85, 6158), (92, 6200), (94, 6221), (96, 6245), (99, 6281), (101, 6308), (103, 6317), (107, 6356), (110, 6398), (112, 6407), (113, 6413), (118, 6440), (120, 6452), (122, 6485), (124, 6527), (128, 6578), (131, 6590), (138, 6638), (141, 6668), (151, 6851), (161, 6935), (170, 7013), (178, 7079),

Gene: GordDuk1_3 Start: 5216, Stop: 7087, Start Num: 11

Candidate Starts for GordDuk1_3:

(Start: 11 @5216 has 48 MA's), (21, 5288), (31, 5402), (33, 5420), (38, 5468), (40, 5480), (43, 5525), (44, 5537), (55, 5666), (59, 5759), (60, 5789), (62, 5810), (68, 5903), (70, 5909), (76, 5987), (85, 6098), (92, 6140), (94, 6161), (96, 6185), (99, 6221), (101, 6248), (103, 6257), (107, 6296), (110, 6338), (112, 6347), (113, 6353), (118, 6380), (120, 6392), (122, 6425), (124, 6467), (128, 6518), (131, 6530), (138, 6578), (151, 6791), (161, 6875), (170, 6953), (178, 7019),

Gene: GordTnk2_3 Start: 5183, Stop: 7054, Start Num: 11

Candidate Starts for GordTnk2_3:

(Start: 11 @5183 has 48 MA's), (21, 5255), (31, 5369), (33, 5387), (38, 5435), (40, 5447), (43, 5492), (44, 5504), (55, 5633), (59, 5726), (60, 5756), (62, 5777), (68, 5870), (70, 5876), (76, 5954), (85, 6065), (92, 6107), (94, 6128), (96, 6152), (99, 6188), (101, 6215), (103, 6224), (107, 6263), (110, 6305), (112, 6314), (113, 6320), (118, 6347), (120, 6359), (122, 6392), (124, 6434), (128, 6485), (131, 6497), (138, 6545), (141, 6575), (151, 6758), (161, 6842), (170, 6920), (178, 6986),

Gene: Gorko_11 Start: 9166, Stop: 10893, Start Num: 11

Candidate Starts for Gorko_11:

(Start: 11 @9166 has 48 MA's), (26, 9283), (28, 9298), (29, 9319), (33, 9367), (38, 9415), (40, 9427), (45, 9490), (47, 9505), (49, 9517), (50, 9556), (70, 9775), (85, 9964), (95, 10036), (99, 10087), (104, 10135), (113, 10219), (115, 10231), (117, 10243), (119, 10255), (122, 10291), (128, 10384), (134, 10423), (156, 10669), (160, 10708), (163, 10729), (164, 10738), (165, 10762), (167, 10777),

Gene: GourdThymes_11 Start: 9165, Stop: 10892, Start Num: 11

Candidate Starts for GourdThymes_11:

(Start: 11 @9165 has 48 MA's), (26, 9282), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (49, 9516), (50, 9555), (70, 9774), (85, 9963), (91, 10002), (95, 10035), (99, 10086), (104, 10134), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (128, 10383), (134, 10422), (156, 10668), (160, 10707), (163, 10728), (164, 10737), (165, 10761), (167, 10776),

Gene: HayZem_12 Start: 9385, Stop: 11100, Start Num: 11

Candidate Starts for HayZem_12:

(10, 9382), (Start: 11 @9385 has 48 MA's), (16, 9418), (28, 9514), (30, 9559), (33, 9583), (38, 9631), (49, 9733), (53, 9811), (70, 9997), (85, 10186), (92, 10228), (95, 10258), (99, 10309), (104, 10357), (113, 10441), (115, 10453), (119, 10477), (122, 10513), (130, 10615), (157, 10885), (162, 10924), (166, 10978), (167, 10981),

Gene: Hollow_11 Start: 10813, Stop: 12552, Start Num: 12

Candidate Starts for Hollow_11:

(9, 10807), (Start: 12 @10813 has 9 MA's), (16, 10846), (26, 10936), (31, 11002), (33, 11020), (35, 11056), (36, 11059), (38, 11068), (39, 11071), (46, 11146), (48, 11161), (50, 11209), (53, 11248), (57, 11287), (66, 11401), (67, 11413), (70, 11431), (78, 11548), (85, 11620), (91, 11659), (92, 11662), (95, 11692), (99, 11743), (104, 11791), (113, 11875), (115, 11887), (122, 11947), (132, 12067), (133, 12070), (140, 12112), (143, 12133), (153, 12301), (169, 12439), (175, 12490), (183, 12535),

Gene: Hotorobo_11 Start: 9176, Stop: 10903, Start Num: 11

Candidate Starts for Hotorobo_11:

(Start: 11 @9176 has 48 MA's), (26, 9293), (28, 9308), (29, 9329), (33, 9377), (38, 9425), (45, 9500), (49, 9527), (70, 9785), (85, 9974), (95, 10046), (99, 10097), (104, 10145), (113, 10229), (115, 10241), (117, 10253), (119, 10265), (122, 10301), (128, 10394), (134, 10433), (156, 10679), (160, 10718), (163, 10739), (164, 10748), (165, 10772), (167, 10787),

Gene: Jams_8 Start: 8404, Stop: 10131, Start Num: 11

Candidate Starts for Jams_8:

(Start: 11 @8404 has 48 MA's), (16, 8440), (26, 8521), (29, 8557), (33, 8605), (38, 8653), (45, 8728), (49, 8755), (58, 8887), (61, 8917), (67, 8995), (70, 9013), (78, 9130), (85, 9202), (95, 9274), (97, 9304), (98, 9313), (99, 9325), (104, 9373), (115, 9469), (117, 9481), (119, 9493), (122, 9529), (130, 9631), (148, 9811), (156, 9907), (160, 9946), (163, 9967), (164, 9976), (165, 10000), (167, 10015), (168, 10024), (173, 10045),

Gene: Jellybones_11 Start: 9200, Stop: 10924, Start Num: 11

Candidate Starts for Jellybones_11:

(Start: 11 @9200 has 48 MA's), (26, 9317), (28, 9332), (29, 9353), (33, 9401), (38, 9449), (45, 9524), (49, 9551), (50, 9590), (68, 9803), (70, 9809), (85, 9998), (91, 10037), (95, 10070), (99, 10121), (104, 10169), (109, 10202), (113, 10253), (115, 10265), (117, 10277), (119, 10289), (122, 10325), (134, 10457), (156, 10700), (160, 10739), (163, 10760), (164, 10769), (165, 10793), (167, 10808),

Gene: John316_11 Start: 9165, Stop: 10889, Start Num: 11

Candidate Starts for John316_11:

(Start: 11 @9165 has 48 MA's), (26, 9282), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (49, 9516), (50, 9555), (68, 9768), (70, 9774), (85, 9963), (91, 10002), (95, 10035), (99, 10086), (104, 10134), (109, 10167), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (134, 10422), (156, 10665), (160, 10704), (163, 10725), (164, 10734), (165, 10758), (167, 10773),

Gene: Jumbo_8 Start: 10158, Stop: 12023, Start Num: 11

Candidate Starts for Jumbo_8:

(Start: 11 @10158 has 48 MA's), (30, 10344), (33, 10368), (38, 10416), (40, 10428), (41, 10440), (48, 10509), (49, 10518), (58, 10650), (66, 10818), (68, 10842), (70, 10848), (76, 10926), (85, 11037), (87, 11046), (94, 11100), (96, 11124), (97, 11139), (99, 11160), (101, 11187), (107, 11235), (110, 11277), (112, 11286), (118, 11319), (119, 11328), (120, 11331), (122, 11364), (124, 11409), (126, 11448), (127, 11457), (135, 11502), (136, 11508), (139, 11526), (147, 11613), (151, 11736), (152, 11748), (154, 11763), (159, 11814), (175, 11940), (176, 11943),

Gene: Kampe_11 Start: 8747, Stop: 10516, Start Num: 11

Candidate Starts for Kampe_11:

(7, 8735), (Start: 11 @8747 has 48 MA's), (27, 8867), (32, 8942), (33, 8945), (35, 8981), (38, 8993), (42, 9038), (49, 9095), (50, 9134), (51, 9167), (52, 9170), (55, 9191), (69, 9386), (71, 9404), (72, 9419), (75, 9461), (76, 9467), (85, 9578), (90, 9599), (93, 9623), (95, 9650), (99, 9701), (101, 9728), (108, 9779), (113, 9833), (117, 9857), (118, 9860), (119, 9869), (122, 9905), (136, 10046), (182, 10484), (183, 10493),

Gene: Kaseim_8 Start: 8395, Stop: 10122, Start Num: 11

Candidate Starts for Kaseim_8:

(4, 8368), (Start: 11 @8395 has 48 MA's), (16, 8431), (26, 8512), (29, 8548), (33, 8596), (38, 8644), (49, 8746), (61, 8908), (67, 8986), (70, 9004), (78, 9121), (85, 9193), (95, 9265), (97, 9295), (98, 9304), (99, 9316), (104, 9364), (115, 9460), (117, 9472), (119, 9484), (121, 9511), (122, 9520), (130, 9622), (148, 9802), (156, 9898), (160, 9937), (163, 9958), (164, 9967), (165, 9991), (167, 10006), (168, 10015), (173, 10036),

Gene: Katyusha_11 Start: 10878, Stop: 12617, Start Num: 12

Candidate Starts for Katyusha_11:

(9, 10872), (Start: 12 @10878 has 9 MA's), (16, 10911), (26, 11001), (31, 11067), (33, 11085), (35, 11121), (38, 11133), (39, 11136), (46, 11211), (48, 11226), (50, 11274), (53, 11313), (57, 11352), (63, 11415), (65, 11460), (66, 11466), (67, 11478), (70, 11496), (80, 11646), (85, 11685), (91, 11724), (92, 11727), (95, 11757), (99, 11808), (104, 11856), (113, 11940), (115, 11952), (121, 12003), (122, 12012), (132, 12132), (133, 12135), (143, 12198), (153, 12366), (169, 12504), (175, 12555), (183, 12600),

Gene: Kvothe_11 Start: 10815, Stop: 12554, Start Num: 12

Candidate Starts for Kvothe_11:

(9, 10809), (Start: 12 @10815 has 9 MA's), (16, 10848), (26, 10938), (31, 11004), (33, 11022), (35, 11058), (38, 11070), (39, 11073), (46, 11148), (48, 11163), (50, 11211), (53, 11250), (57, 11289), (63, 11352), (65, 11397), (66, 11403), (67, 11415), (70, 11433), (80, 11583), (85, 11622), (91, 11661), (92, 11664), (95, 11694), (99, 11745), (104, 11793), (113, 11877), (115, 11889), (121, 11940), (122,

11949), (132, 12069), (133, 12072), (143, 12135), (153, 12303), (169, 12441), (175, 12492), (183, 12537),

Gene: Linetti_12 Start: 9316, Stop: 11043, Start Num: 11

Candidate Starts for Linetti_12:

(Start: 11 @9316 has 48 MA's), (28, 9448), (29, 9469), (33, 9517), (38, 9565), (42, 9610), (45, 9640), (49, 9667), (50, 9706), (58, 9799), (70, 9925), (85, 10114), (95, 10186), (99, 10237), (104, 10285), (108, 10315), (113, 10369), (115, 10381), (117, 10393), (119, 10405), (122, 10441), (126, 10522), (128, 10534), (130, 10543), (156, 10819), (160, 10858), (163, 10879), (164, 10888), (165, 10912), (167, 10927),

Gene: Lizzo_11 Start: 9165, Stop: 10892, Start Num: 11

Candidate Starts for Lizzo_11:

(Start: 11 @9165 has 48 MA's), (26, 9282), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (47, 9504), (49, 9516), (70, 9774), (85, 9963), (95, 10035), (99, 10086), (104, 10134), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (128, 10383), (134, 10422), (156, 10668), (160, 10707), (163, 10728), (164, 10737), (165, 10761), (167, 10776),

Gene: Mbo2_8 Start: 4883, Stop: 6661, Start Num: 11

Candidate Starts for Mbo2_8:

(8, 4877), (Start: 11 @4883 has 48 MA's), (18, 4925), (30, 5051), (32, 5072), (33, 5075), (38, 5123), (40, 5135), (47, 5213), (54, 5312), (58, 5357), (63, 5408), (70, 5486), (74, 5555), (76, 5564), (79, 5609), (85, 5678), (89, 5696), (90, 5699), (91, 5717), (92, 5720), (97, 5780), (99, 5801), (100, 5825), (108, 5879), (109, 5882), (110, 5918), (113, 5933), (115, 5945), (122, 6005), (125, 6071), (145, 6269), (150, 6380), (155, 6440), (174, 6590), (175, 6602), (183, 6647),

Gene: Monty_10 Start: 9178, Stop: 10905, Start Num: 11

Candidate Starts for Monty_10:

(Start: 11 @9178 has 48 MA's), (26, 9295), (28, 9310), (29, 9331), (33, 9379), (38, 9427), (45, 9502), (49, 9529), (70, 9787), (85, 9976), (95, 10048), (99, 10099), (104, 10147), (113, 10231), (115, 10243), (117, 10255), (119, 10267), (122, 10303), (128, 10396), (134, 10435), (156, 10681), (160, 10720), (163, 10741), (164, 10750), (165, 10774), (167, 10789),

Gene: MrWormie_8 Start: 8373, Stop: 10100, Start Num: 11

Candidate Starts for MrWormie_8:

(Start: 11 @8373 has 48 MA's), (16, 8409), (26, 8490), (29, 8526), (33, 8574), (38, 8622), (45, 8697), (49, 8724), (61, 8886), (67, 8964), (70, 8982), (78, 9099), (85, 9171), (95, 9243), (97, 9273), (98, 9282), (99, 9294), (104, 9342), (108, 9372), (115, 9438), (117, 9450), (119, 9462), (122, 9498), (130, 9600), (148, 9780), (156, 9876), (160, 9915), (163, 9936), (164, 9945), (165, 9969), (167, 9984), (168, 9993), (173, 10014),

Gene: Msay19_12 Start: 9355, Stop: 11079, Start Num: 11

Candidate Starts for Msay19_12:

(Start: 11 @9355 has 48 MA's), (28, 9487), (29, 9508), (33, 9556), (38, 9604), (45, 9679), (49, 9706), (50, 9745), (68, 9958), (70, 9964), (85, 10153), (91, 10192), (95, 10225), (99, 10276), (104, 10324), (109, 10357), (113, 10408), (115, 10420), (117, 10432), (119, 10444), (122, 10480), (134, 10612), (156, 10855), (160, 10894), (163, 10915), (164, 10924), (167, 10963),

Gene: Niagara_11 Start: 10835, Stop: 12574, Start Num: 12

Candidate Starts for Niagara_11:

(9, 10829), (Start: 12 @10835 has 9 MA's), (16, 10868), (26, 10958), (31, 11024), (33, 11042), (35, 11078), (38, 11090), (39, 11093), (46, 11168), (48, 11183), (50, 11231), (53, 11270), (57, 11309), (63, 11372), (65, 11417), (66, 11423), (70, 11453), (78, 11570), (85, 11642), (91, 11681), (92, 11684), (95,

11714), (97, 11744), (99, 11765), (103, 11801), (104, 11813), (113, 11897), (115, 11909), (122, 11969), (132, 12089), (133, 12092), (143, 12155), (153, 12323), (169, 12461), (175, 12512), (183, 12557),

Gene: Orchid_11 Start: 8747, Stop: 10516, Start Num: 11

Candidate Starts for Orchid_11:

(7, 8735), (Start: 11 @8747 has 48 MA's), (27, 8867), (32, 8942), (33, 8945), (35, 8981), (38, 8993), (42, 9038), (49, 9095), (50, 9134), (51, 9167), (52, 9170), (55, 9191), (69, 9386), (71, 9404), (72, 9419), (75, 9461), (76, 9467), (85, 9578), (90, 9599), (93, 9623), (95, 9650), (99, 9701), (101, 9728), (108, 9779), (113, 9833), (117, 9857), (118, 9860), (119, 9869), (122, 9905), (136, 10046), (182, 10484), (183, 10493),

Gene: PatrickStar_11 Start: 8747, Stop: 10516, Start Num: 11

Candidate Starts for PatrickStar_11:

(7, 8735), (Start: 11 @8747 has 48 MA's), (27, 8867), (32, 8942), (33, 8945), (35, 8981), (38, 8993), (42, 9038), (49, 9095), (50, 9134), (51, 9167), (52, 9170), (55, 9191), (69, 9386), (71, 9404), (72, 9419), (75, 9461), (76, 9467), (85, 9578), (90, 9599), (93, 9623), (95, 9650), (99, 9701), (101, 9728), (108, 9779), (113, 9833), (117, 9857), (118, 9860), (119, 9869), (122, 9905), (136, 10046), (182, 10484), (183, 10493),

Gene: PierreThree_11 Start: 9163, Stop: 10890, Start Num: 11

Candidate Starts for PierreThree_11:

(Start: 11 @9163 has 48 MA's), (28, 9295), (29, 9316), (33, 9364), (38, 9412), (42, 9457), (45, 9487), (49, 9514), (50, 9553), (58, 9646), (70, 9772), (85, 9961), (95, 10033), (99, 10084), (104, 10132), (108, 10162), (113, 10216), (115, 10228), (117, 10240), (119, 10252), (122, 10288), (126, 10369), (128, 10381), (130, 10390), (156, 10666), (160, 10705), (163, 10726), (164, 10735), (165, 10759), (167, 10774),

Gene: PokyPuppy_10 Start: 9058, Stop: 10785, Start Num: 11

Candidate Starts for PokyPuppy_10:

(Start: 11 @9058 has 48 MA's), (23, 9145), (28, 9190), (29, 9211), (33, 9259), (38, 9307), (45, 9382), (47, 9397), (49, 9409), (70, 9667), (85, 9856), (95, 9928), (99, 9979), (104, 10027), (113, 10111), (115, 10123), (117, 10135), (119, 10147), (122, 10183), (128, 10276), (148, 10465), (156, 10561), (160, 10600), (163, 10621), (164, 10630), (165, 10654), (167, 10669),

Gene: Poland_12 Start: 9331, Stop: 11055, Start Num: 11

Candidate Starts for Poland_12:

(Start: 11 @9331 has 48 MA's), (28, 9463), (29, 9484), (33, 9532), (38, 9580), (45, 9655), (49, 9682), (50, 9721), (68, 9934), (70, 9940), (85, 10129), (91, 10168), (95, 10201), (99, 10252), (104, 10300), (109, 10333), (113, 10384), (115, 10396), (117, 10408), (119, 10420), (122, 10456), (134, 10588), (156, 10831), (160, 10870), (163, 10891), (164, 10900), (167, 10939),

Gene: RemRem_12 Start: 9177, Stop: 10901, Start Num: 11

Candidate Starts for RemRem_12:

(Start: 11 @9177 has 48 MA's), (26, 9294), (28, 9309), (29, 9330), (33, 9378), (38, 9426), (40, 9438), (45, 9501), (49, 9528), (50, 9567), (70, 9786), (85, 9975), (95, 10047), (99, 10098), (104, 10146), (113, 10230), (115, 10242), (117, 10254), (119, 10266), (122, 10302), (128, 10395), (134, 10434), (156, 10677), (160, 10716), (163, 10737), (164, 10746), (165, 10770), (167, 10785),

Gene: Reynauld_16 Start: 11632, Stop: 13386, Start Num: 11

Candidate Starts for Reynauld_16:

(Start: 11 @11632 has 48 MA's), (24, 11719), (25, 11734), (32, 11824), (33, 11827), (35, 11863), (38, 11875), (41, 11899), (58, 12103), (65, 12193), (66, 12199), (70, 12229), (79, 12352), (85, 12436), (86,

12439), (88, 12448), (90, 12457), (91, 12475), (92, 12478), (94, 12499), (97, 12538), (99, 12559), (108, 12637), (109, 12640), (110, 12676), (111, 12679), (113, 12691), (115, 12703), (122, 12763), (132, 12895), (137, 12925), (151, 13126), (166, 13264), (171, 13288), (172, 13291), (182, 13357),

Gene: RobinSparkles_15 Start: 9340, Stop: 11109, Start Num: 11

Candidate Starts for RobinSparkles_15:

(7, 9328), (Start: 11 @9340 has 48 MA's), (14, 9352), (27, 9460), (32, 9535), (33, 9538), (35, 9574), (38, 9586), (49, 9688), (50, 9727), (52, 9763), (55, 9784), (66, 9952), (69, 9979), (71, 9997), (72, 10012), (75, 10054), (76, 10060), (85, 10171), (90, 10192), (95, 10243), (99, 10294), (101, 10321), (108, 10372), (113, 10426), (119, 10462), (122, 10498), (182, 11077), (183, 11086),

Gene: RoyalG_12 Start: 9366, Stop: 11090, Start Num: 11

Candidate Starts for RoyalG_12:

(Start: 11 @9366 has 48 MA's), (13, 9378), (17, 9414), (28, 9498), (29, 9519), (33, 9567), (38, 9615), (41, 9639), (45, 9690), (46, 9693), (49, 9717), (56, 9816), (58, 9849), (68, 9969), (70, 9975), (85, 10164), (95, 10236), (99, 10287), (104, 10335), (108, 10365), (113, 10419), (115, 10431), (117, 10443), (119, 10455), (122, 10491), (128, 10584), (134, 10623), (148, 10770), (156, 10866), (160, 10905), (163, 10926), (164, 10935), (165, 10959), (167, 10974),

Gene: Sam12_11 Start: 9177, Stop: 10901, Start Num: 11

Candidate Starts for Sam12_11:

(Start: 11 @9177 has 48 MA's), (26, 9294), (28, 9309), (29, 9330), (33, 9378), (38, 9426), (45, 9501), (47, 9516), (49, 9528), (70, 9786), (85, 9975), (95, 10047), (99, 10098), (104, 10146), (113, 10230), (115, 10242), (117, 10254), (119, 10266), (122, 10302), (128, 10395), (134, 10434), (156, 10677), (160, 10716), (163, 10737), (164, 10746), (165, 10770), (167, 10785),

Gene: Shelley_8 Start: 8418, Stop: 10145, Start Num: 11

Candidate Starts for Shelley_8:

(4, 8391), (Start: 11 @8418 has 48 MA's), (16, 8454), (26, 8535), (29, 8571), (33, 8619), (38, 8667), (49, 8769), (61, 8931), (67, 9009), (70, 9027), (78, 9144), (85, 9216), (95, 9288), (97, 9318), (98, 9327), (99, 9339), (104, 9387), (115, 9483), (117, 9495), (119, 9507), (121, 9534), (122, 9543), (130, 9645), (148, 9825), (156, 9921), (160, 9960), (163, 9981), (164, 9990), (165, 10014), (167, 10029), (168, 10038), (173, 10059),

Gene: Sombrero_11 Start: 9211, Stop: 10935, Start Num: 11

Candidate Starts for Sombrero_11:

(Start: 11 @9211 has 48 MA's), (26, 9328), (28, 9343), (29, 9364), (33, 9412), (38, 9460), (45, 9535), (47, 9550), (49, 9562), (68, 9814), (70, 9820), (85, 10009), (91, 10048), (95, 10081), (99, 10132), (104, 10180), (109, 10213), (113, 10264), (115, 10276), (117, 10288), (119, 10300), (122, 10336), (134, 10468), (156, 10711), (160, 10750), (163, 10771), (164, 10780), (167, 10819),

Gene: Squibbles_11 Start: 9165, Stop: 10892, Start Num: 11

Candidate Starts for Squibbles_11:

(Start: 11 @9165 has 48 MA's), (26, 9282), (28, 9297), (29, 9318), (33, 9366), (38, 9414), (45, 9489), (47, 9504), (49, 9516), (70, 9774), (85, 9963), (95, 10035), (99, 10086), (104, 10134), (113, 10218), (115, 10230), (117, 10242), (119, 10254), (122, 10290), (128, 10383), (134, 10422), (156, 10668), (160, 10707), (163, 10728), (164, 10737), (165, 10761), (167, 10776),

Gene: SteveFrench_10 Start: 8960, Stop: 10684, Start Num: 11

Candidate Starts for SteveFrench_10:

(Start: 11 @8960 has 48 MA's), (13, 8972), (17, 9008), (28, 9092), (29, 9113), (33, 9161), (38, 9209), (41, 9233), (45, 9284), (46, 9287), (49, 9311), (58, 9443), (70, 9569), (85, 9758), (95, 9830), (99, 9881), (104, 9929), (113, 10013), (115, 10025), (117, 10037), (119, 10049), (122, 10085), (126, 10166), (128,

10178), (134, 10217), (156, 10460), (160, 10499), (163, 10520), (164, 10529), (165, 10553), (167, 10568),

Gene: Teatealatte_11 Start: 10798, Stop: 12537, Start Num: 12

Candidate Starts for Teatealatte_11:

(9, 10792), (Start: 12 @10798 has 9 MA's), (16, 10831), (26, 10921), (31, 10987), (33, 11005), (35, 11041), (38, 11053), (39, 11056), (46, 11131), (48, 11146), (50, 11194), (53, 11233), (63, 11335), (65, 11380), (66, 11386), (70, 11416), (78, 11533), (80, 11566), (85, 11605), (91, 11644), (92, 11647), (95, 11677), (97, 11707), (99, 11728), (104, 11776), (113, 11860), (115, 11872), (122, 11932), (132, 12052), (133, 12055), (143, 12118), (153, 12286), (169, 12424), (175, 12475), (183, 12520),

Gene: Teech_11 Start: 10870, Stop: 12609, Start Num: 12

Candidate Starts for Teech_11:

(9, 10864), (Start: 12 @10870 has 9 MA's), (16, 10903), (26, 10993), (31, 11059), (33, 11077), (35, 11113), (38, 11125), (39, 11128), (46, 11203), (48, 11218), (50, 11266), (53, 11305), (57, 11344), (63, 11407), (65, 11452), (66, 11458), (70, 11488), (78, 11605), (80, 11638), (85, 11677), (91, 11716), (92, 11719), (95, 11749), (97, 11779), (99, 11800), (104, 11848), (113, 11932), (115, 11944), (122, 12004), (132, 12124), (133, 12127), (143, 12190), (153, 12358), (169, 12496), (175, 12547), (183, 12592),

Gene: Tredge_11 Start: 10798, Stop: 12537, Start Num: 12

Candidate Starts for Tredge_11:

(9, 10792), (Start: 12 @10798 has 9 MA's), (16, 10831), (26, 10921), (31, 10987), (33, 11005), (35, 11041), (38, 11053), (39, 11056), (46, 11131), (48, 11146), (50, 11194), (53, 11233), (63, 11335), (65, 11380), (66, 11386), (70, 11416), (78, 11533), (80, 11566), (85, 11605), (91, 11644), (92, 11647), (95, 11677), (97, 11707), (99, 11728), (104, 11776), (113, 11860), (115, 11872), (122, 11932), (132, 12052), (133, 12055), (143, 12118), (153, 12286), (169, 12424), (175, 12475), (183, 12520),

Gene: Trogglehumper_30 Start: 17919, Stop: 19799, Start Num: 1

Candidate Starts for Trogglehumper_30:

(Start: 1 @17919 has 1 MA's), (2, 17985), (5, 18042), (6, 18045), (15, 18090), (19, 18120), (22, 18153), (32, 18267), (33, 18270), (34, 18288), (38, 18318), (39, 18321), (45, 18393), (49, 18420), (56, 18519), (70, 18684), (73, 18750), (75, 18756), (77, 18780), (85, 18873), (87, 18882), (89, 18891), (92, 18915), (95, 18945), (102, 19029), (106, 19068), (110, 19113), (111, 19116), (114, 19134), (115, 19140), (122, 19200), (126, 19281), (127, 19290), (130, 19302), (131, 19305), (139, 19359), (142, 19383), (144, 19416), (149, 19470), (179, 19752), (180, 19755),

Gene: Worcestershire_11 Start: 9176, Stop: 10903, Start Num: 11

Candidate Starts for Worcestershire_11:

(Start: 11 @9176 has 48 MA's), (26, 9293), (28, 9308), (29, 9329), (33, 9377), (38, 9425), (40, 9437), (45, 9500), (47, 9515), (49, 9527), (70, 9785), (85, 9974), (95, 10046), (99, 10097), (104, 10145), (113, 10229), (115, 10241), (117, 10253), (119, 10265), (122, 10301), (128, 10394), (134, 10433), (156, 10679), (160, 10718), (163, 10739), (164, 10748), (165, 10772), (167, 10787),