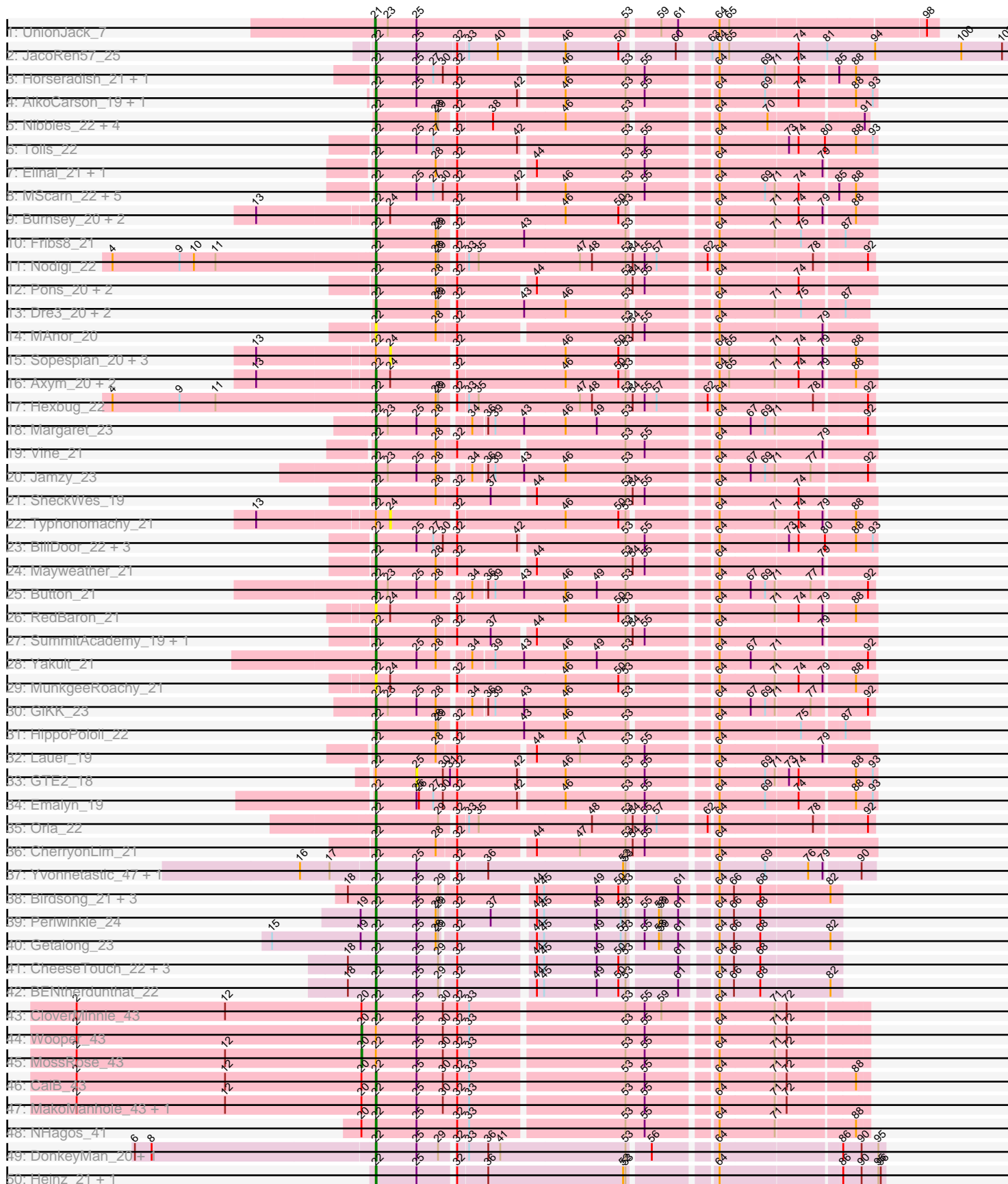
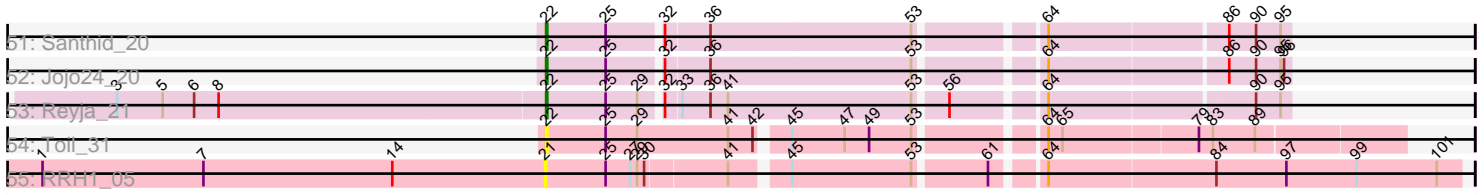


Pham 169895



Pham 169895



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 169895 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169895 has 92 members, 17 are drafts.

Phages represented in each track:

- Track 1 : UnionJack_7
- Track 2 : JacoRen57_25
- Track 3 : Horseradish_21, Yummy_21
- Track 4 : AikoCarson_19, Amok_19
- Track 5 : Nibbles_22, Survivors_22, MaVan_22, Azira_22, Zareef_24
- Track 6 : Tolls_22
- Track 7 : Elinal_21, KayGee_19
- Track 8 : MScarn_22, Biskit_21, Buttrmlkdreams_20, Troje_20, SweatNTears_22, SketchMex_19
- Track 9 : Burnsey_20, Agatha_20, Nina_21
- Track 10 : Fribs8_21
- Track 11 : Nodigi_22
- Track 12 : Pons_20, Feastonyeet_19, BigChungus_19
- Track 13 : Dre3_20, Gibbous_20, Cleo_20
- Track 14 : MAnor_20
- Track 15 : Sopespian_20, GoldHunter_21, PsychoKiller_20, Elliott_20
- Track 16 : Axym_20, Cozz_20, Quasar_20
- Track 17 : Hexbug_22
- Track 18 : Margaret_23
- Track 19 : Vine_21
- Track 20 : Jamzy_23
- Track 21 : SheckWes_19
- Track 22 : Typhonomachy_21
- Track 23 : BillDoor_22, SteamedHams_22, Yarn_19, AndPeggy_19
- Track 24 : Mayweather_21
- Track 25 : Button_21
- Track 26 : RedBaron_21
- Track 27 : SummitAcademy_19, PotPie_20
- Track 28 : Yakult_21
- Track 29 : MunkgeeRoachy_21
- Track 30 : GiKK_23
- Track 31 : HippoPololi_22
- Track 32 : Lauer_19
- Track 33 : GTE2_18
- Track 34 : Emalyn_19
- Track 35 : Orla_22
- Track 36 : CherryonLim_21

- Track 37 : Yvonnetastic_47, JonJames_49
- Track 38 : Birdsong_21, BearBQ_21, Kuwabara_21, MortyNRick_21
- Track 39 : Periwinkle_24
- Track 40 : Getalong_23
- Track 41 : CheeseTouch_22, Lutum_22, Kenna_21, Asapag_22
- Track 42 : BENtherdunthat_22
- Track 43 : CloverMinnie_43
- Track 44 : Wooper_43
- Track 45 : MossRose_43
- Track 46 : CaiB_43
- Track 47 : MakoManhole_43, AnarQue_43
- Track 48 : NHagos_41
- Track 49 : DonkeyMan_20, Tarzan_20
- Track 50 : Heinz_21, Hibiscus_20
- Track 51 : Santhid_20
- Track 52 : Jojo24_20
- Track 53 : Reyja_21
- Track 54 : Toil_31
- Track 55 : RRH1_05

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

The start number called the most often in the published annotations is 22, it was called in 72 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agatha_20, AikoCarson_19, Amok_19, AnarQue_43, AndPeggy_19, Asapag_22, Axym_20, Azira_22, BENtherdunthat_22, BearBQ_21, BigChungus_19, BillDoor_22, Birdsong_21, Biskit_21, Burnsey_20, Button_21, Buttrmlkdreams_20, CaiB_43, CheeseTouch_22, CherryonLim_21, Cleo_20, CloverMinnie_43, Cozz_20, DonkeyMan_20, Dre3_20, Elinal_21, Emalyn_19, Feastonyeet_19, Fribs8_21, Getalong_23, GiKK_23, Gibbous_20, Heinz_21, Hexbug_22, Hibiscus_20, HippoPololi_22, Horseradish_21, JacoRen57_25, Jamzy_23, Jojo24_20, JonJames_49, KayGee_19, Kenna_21, Kuwabara_21, Lauer_19, Lutum_22, MAnor_20, MScarn_22, MaVan_22, MakoManhole_43, Margaret_23, Mayweather_21, MortyNRick_21, MunkgeeRoachy_21, NHagos_41, Nibbles_22, Nina_21, Nodigi_22, Orla_22, Periwinkle_24, Pons_20, PotPie_20, Quasar_20, RedBaron_21, Reyja_21, Santhid_20, SheckWes_19, SketchMex_19, SteamedHams_22, SummitAcademy_19, Survivors_22, SweatNTears_22, Tarzan_20, Toil_31, Tolls_22, Troje_20, Vine_21, Yakult_21, Yarn_19, Yummy_21, Yvonnetastic_47, Zareef_24,

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

- Elliott_20, GTE2_18, GoldHunter_21, MossRose_43, PsychoKiller_20, Sopespian_20, Typhonmarchy_21, Wooper_43,

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

- RRH1_05, UnionJack_7,

Summary by start number:

Start 20:

- Found in 7 of 92 (7.6%) of genes in pham
- Manual Annotations of this start: 2 of 75
- Called 28.6% of time when present
- Phage (with cluster) where this start called: MossRose_43 (DR), Wooper_43 (DR),

Start 21:

- Found in 2 of 92 (2.2%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RRH1_05 (singleton), UnionJack_7 (A5),

Start 22:

- Found in 90 of 92 (97.8%) of genes in pham
- Manual Annotations of this start: 72 of 75
- Called 91.1% of time when present
- Phage (with cluster) where this start called: Agatha_20 (CT), AikoCarson_19 (CT), Amok_19 (CT), AnarQue_43 (DR), AndPeggy_19 (CT), Asapag_22 (DN1), Axym_20 (CT), Azira_22 (CT), BENtherdunthat_22 (DN1), BearBQ_21 (DN), BigChungus_19 (CT), BillDoor_22 (CT), Birdsong_21 (DN), Biskit_21 (CT), Burnsey_20 (CT), Button_21 (CT), Buttrmlkdreams_20 (CT), CaiB_43 (DR), CheeseTouch_22 (DN1), CherryonLim_21 (CT), Cleo_20 (CT), CloverMinnie_43 (DR), Cozz_20 (CT), DonkeyMan_20 (DY), Dre3_20 (CT), Elinal_21 (CT), Emalyn_19 (CT), Feastonyeet_19 (CT), Fribs8_21 (CT), Getalong_23 (DN1), GiKK_23 (CT), Gibbous_20 (CT), Heinz_21 (DY), Hexbug_22 (CT), Hibiscus_20 (DY), HippoPololi_22 (CT), Horseradish_21 (CT), JacoRen57_25 (AB), Jamzy_23 (CT), Jojo24_20 (DY), JonJames_49 (DD), KayGee_19 (CT), Kenna_21 (DN1), Kuwabara_21 (DN4), Lauer_19 (CT), Lutum_22 (DN1), MAnor_20 (CT), MScarn_22 (CT), MaVan_22 (CT), MakoManhole_43 (DR), Margaret_23 (CT), Mayweather_21 (CT), MortyNRick_21 (DN), MunkgeeRoachy_21 (CT), NHagos_41 (DR), Nibbles_22 (CT), Nina_21 (CT), Nodigi_22 (CT), Orla_22 (CT), Periwinkle_24 (DN1), Pons_20 (CT), PotPie_20 (CT), Quasar_20 (CT), RedBaron_21 (CT), Reyja_21 (DY), Santhid_20 (DY), SheckWes_19 (CT), SketchMex_19 (CT), SteamedHams_22 (CT), SummitAcademy_19 (CT), Survivors_22 (CT), SweatNTears_22 (CT), Tarzan_20 (DY), Toil_31 (singleton), Tolls_22 (CT), Troje_20 (CT), Vine_21 (CT), Yakult_21 (CT), Yarn_19 (CT), Yummy_21 (CT), Yvonnestic_47 (DD), Zareef_24 (CT),

Start 24:

- Found in 13 of 92 (14.1%) of genes in pham
- No Manual Annotations of this start.
- Called 38.5% of time when present
- Phage (with cluster) where this start called: Elliott_20 (CT), GoldHunter_21 (CT), PsychoKiller_20 (CT), Sopespian_20 (CT), Typhonmacy_21 (CT),

Start 25:

- Found in 53 of 92 (57.6%) of genes in pham
- No Manual Annotations of this start.
- Called 1.9% of time when present
- Phage (with cluster) where this start called: GTE2_18 (CT),

Summary by clusters:

There are 10 clusters represented in this pham: DN, singleton, AB, DD, DN4, A5, DY, DN1, DR, CT,

Info for manual annotations of cluster A5:

- Start number 21 was manually annotated 1 time for cluster A5.

Info for manual annotations of cluster AB:

- Start number 22 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster CT:

- Start number 22 was manually annotated 50 times for cluster CT.

Info for manual annotations of cluster DD:

- Start number 22 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DN:

- Start number 22 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 22 was manually annotated 7 times for cluster DN1.

Info for manual annotations of cluster DN4:

- Start number 22 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DR:

- Start number 20 was manually annotated 2 times for cluster DR.
- Start number 22 was manually annotated 4 times for cluster DR.

Info for manual annotations of cluster DY:

- Start number 22 was manually annotated 5 times for cluster DY.

Gene Information:

Gene: Agatha_20 Start: 17828, Stop: 18406, Start Num: 22

Candidate Starts for Agatha_20:

(13, 17687), (Start: 22 @17828 has 72 MA's), (24, 17846), (32, 17921), (46, 18053), (50, 18119), (53, 18128), (64, 18221), (71, 18287), (74, 18314), (79, 18344), (88, 18380),

Gene: AikoCarson_19 Start: 17137, Stop: 17727, Start Num: 22

Candidate Starts for AikoCarson_19:

(Start: 22 @17137 has 72 MA's), (25, 17188), (32, 17239), (42, 17314), (46, 17365), (53, 17440), (55, 17464), (64, 17542), (69, 17596), (74, 17635), (88, 17701), (93, 17722),

Gene: Amok_19 Start: 17134, Stop: 17724, Start Num: 22

Candidate Starts for Amok_19:

(Start: 22 @17134 has 72 MA's), (25, 17185), (32, 17236), (42, 17311), (46, 17362), (53, 17437), (55, 17461), (64, 17539), (69, 17593), (74, 17632), (88, 17698), (93, 17719),

Gene: AnarQue_43 Start: 35973, Stop: 36551, Start Num: 22

Candidate Starts for AnarQue_43:

(2, 35598), (12, 35784), (Start: 20 @35955 has 2 MA's), (Start: 22 @35973 has 72 MA's), (25, 36024), (30, 36057), (32, 36075), (33, 36090), (53, 36276), (55, 36300), (64, 36378), (71, 36444), (72, 36456),

Gene: AndPeggy_19 Start: 17500, Stop: 18096, Start Num: 22

Candidate Starts for AndPeggy_19:

(Start: 22 @17500 has 72 MA's), (25, 17551), (27, 17572), (30, 17584), (32, 17602), (42, 17677), (53, 17803), (55, 17827), (64, 17905), (73, 17986), (74, 17998), (80, 18031), (88, 18070), (93, 18091),

Gene: Asapag_22 Start: 18682, Stop: 19215, Start Num: 22

Candidate Starts for Asapag_22:

(18, 18649), (Start: 22 @18682 has 72 MA's), (25, 18733), (29, 18760), (32, 18775), (44, 18862), (45, 18871), (49, 18937), (50, 18964), (53, 18973), (61, 19030), (64, 19066), (66, 19084), (68, 19117),

Gene: Axym_20 Start: 17828, Stop: 18406, Start Num: 22

Candidate Starts for Axym_20:

(13, 17687), (Start: 22 @17828 has 72 MA's), (24, 17846), (32, 17921), (46, 18053), (50, 18119), (53, 18128), (64, 18221), (65, 18233), (71, 18287), (74, 18314), (79, 18344), (88, 18380),

Gene: Azira_22 Start: 18806, Stop: 19369, Start Num: 22

Candidate Starts for Azira_22:

(Start: 22 @18806 has 72 MA's), (28, 18881), (29, 18884), (32, 18899), (38, 18941), (46, 19031), (53, 19106), (64, 19199), (70, 19256), (91, 19364),

Gene: BENtherdunthat_22 Start: 18682, Stop: 19215, Start Num: 22

Candidate Starts for BENtherdunthat_22:

(18, 18649), (Start: 22 @18682 has 72 MA's), (25, 18733), (29, 18760), (32, 18775), (44, 18862), (45, 18871), (49, 18937), (50, 18964), (53, 18973), (61, 19030), (64, 19066), (66, 19084), (68, 19117), (82, 19201),

Gene: BearBQ_21 Start: 19522, Stop: 20055, Start Num: 22

Candidate Starts for BearBQ_21:

(18, 19489), (Start: 22 @19522 has 72 MA's), (25, 19573), (29, 19600), (32, 19615), (44, 19702), (45, 19711), (49, 19777), (50, 19804), (53, 19813), (61, 19870), (64, 19906), (66, 19924), (68, 19957), (82, 20041),

Gene: BigChungus_19 Start: 17545, Stop: 18132, Start Num: 22

Candidate Starts for BigChungus_19:

(Start: 22 @17545 has 72 MA's), (28, 17620), (32, 17644), (44, 17734), (53, 17845), (54, 17854), (55, 17869), (64, 17947), (74, 18040),

Gene: BillDoor_22 Start: 17468, Stop: 18064, Start Num: 22

Candidate Starts for BillDoor_22:

(Start: 22 @17468 has 72 MA's), (25, 17519), (27, 17540), (30, 17552), (32, 17570), (42, 17645), (53, 17771), (55, 17795), (64, 17873), (73, 17954), (74, 17966), (80, 17999), (88, 18038), (93, 18059),

Gene: Birdsong_21 Start: 18415, Stop: 18948, Start Num: 22

Candidate Starts for Birdsong_21:

(18, 18382), (Start: 22 @18415 has 72 MA's), (25, 18466), (29, 18493), (32, 18508), (44, 18595), (45, 18604), (49, 18670), (50, 18697), (53, 18706), (61, 18763), (64, 18799), (66, 18817), (68, 18850), (82, 18934),

Gene: Biskit_21 Start: 17483, Stop: 18073, Start Num: 22

Candidate Starts for Biskit_21:

(Start: 22 @17483 has 72 MA's), (25, 17534), (27, 17555), (30, 17567), (32, 17585), (42, 17660), (46, 17711), (53, 17786), (55, 17810), (64, 17888), (69, 17942), (71, 17954), (74, 17981), (85, 18026), (88, 18047),

Gene: Burnsey_20 Start: 17829, Stop: 18407, Start Num: 22

Candidate Starts for Burnsey_20:

(13, 17688), (Start: 22 @17829 has 72 MA's), (24, 17847), (32, 17922), (46, 18054), (50, 18120), (53, 18129), (64, 18222), (71, 18288), (74, 18315), (79, 18345), (88, 18381),

Gene: Button_21 Start: 16864, Stop: 17439, Start Num: 22

Candidate Starts for Button_21:

(Start: 22 @16864 has 72 MA's), (23, 16879), (25, 16915), (28, 16939), (34, 16972), (36, 16987), (39, 16996), (43, 17032), (46, 17083), (49, 17122), (53, 17158), (64, 17260), (67, 17296), (69, 17314), (71, 17326), (77, 17368), (92, 17431),

Gene: Buttrmlkdreams_20 Start: 17465, Stop: 18055, Start Num: 22

Candidate Starts for Buttrmlkdreams_20:

(Start: 22 @17465 has 72 MA's), (25, 17516), (27, 17537), (30, 17549), (32, 17567), (42, 17642), (46, 17693), (53, 17768), (55, 17792), (64, 17870), (69, 17924), (71, 17936), (74, 17963), (85, 18008), (88, 18029),

Gene: CaiB_43 Start: 35959, Stop: 36537, Start Num: 22

Candidate Starts for CaiB_43:

(2, 35584), (12, 35770), (Start: 20 @35941 has 2 MA's), (Start: 22 @35959 has 72 MA's), (25, 36010), (30, 36043), (32, 36061), (33, 36076), (53, 36262), (55, 36286), (64, 36364), (71, 36430), (72, 36442), (88, 36523),

Gene: CheeseTouch_22 Start: 18676, Stop: 19209, Start Num: 22

Candidate Starts for CheeseTouch_22:

(18, 18643), (Start: 22 @18676 has 72 MA's), (25, 18727), (29, 18754), (32, 18769), (44, 18856), (45, 18865), (49, 18931), (50, 18958), (53, 18967), (61, 19024), (64, 19060), (66, 19078), (68, 19111),

Gene: CherryonLim_21 Start: 18254, Stop: 18841, Start Num: 22

Candidate Starts for CherryonLim_21:

(Start: 22 @18254 has 72 MA's), (28, 18329), (32, 18353), (44, 18443), (47, 18497), (53, 18554), (54, 18563), (55, 18578), (64, 18656),

Gene: Cleo_20 Start: 18119, Stop: 18682, Start Num: 22

Candidate Starts for Cleo_20:

(Start: 22 @18119 has 72 MA's), (28, 18194), (29, 18197), (32, 18212), (43, 18293), (46, 18344), (53, 18419), (64, 18512), (71, 18578), (75, 18608), (87, 18656),

Gene: CloverMinnie_43 Start: 35899, Stop: 36477, Start Num: 22

Candidate Starts for CloverMinnie_43:

(2, 35524), (12, 35710), (Start: 20 @35881 has 2 MA's), (Start: 22 @35899 has 72 MA's), (25, 35950), (30, 35983), (32, 36001), (33, 36016), (53, 36202), (55, 36226), (59, 36247), (64, 36304), (71, 36370), (72, 36382),

Gene: Cozz_20 Start: 17829, Stop: 18407, Start Num: 22

Candidate Starts for Cozz_20:

(13, 17688), (Start: 22 @17829 has 72 MA's), (24, 17847), (32, 17922), (46, 18054), (50, 18120), (53, 18129), (64, 18222), (65, 18234), (71, 18288), (74, 18315), (79, 18345), (88, 18381),

Gene: DonkeyMan_20 Start: 16981, Stop: 17565, Start Num: 22

Candidate Starts for DonkeyMan_20:

(6, 16684), (8, 16705), (Start: 22 @16981 has 72 MA's), (25, 17032), (29, 17059), (32, 17074), (33, 17086), (36, 17110), (41, 17125), (53, 17281), (56, 17305), (64, 17374), (86, 17515), (90, 17536), (95, 17557),

Gene: Dre3_20 Start: 18066, Stop: 18629, Start Num: 22

Candidate Starts for Dre3_20:

(Start: 22 @18066 has 72 MA's), (28, 18141), (29, 18144), (32, 18159), (43, 18240), (46, 18291), (53, 18366), (64, 18459), (71, 18525), (75, 18555), (87, 18603),

Gene: Elinal_21 Start: 17498, Stop: 18085, Start Num: 22

Candidate Starts for Elinal_21:

(Start: 22 @17498 has 72 MA's), (28, 17573), (32, 17597), (44, 17687), (53, 17798), (55, 17822), (64, 17900), (79, 18023),

Gene: Elliott_20 Start: 17846, Stop: 18406, Start Num: 24

Candidate Starts for Elliott_20:

(13, 17687), (Start: 22 @17828 has 72 MA's), (24, 17846), (32, 17921), (46, 18053), (50, 18119), (53, 18128), (64, 18221), (65, 18233), (71, 18287), (74, 18314), (79, 18344), (88, 18380),

Gene: Emalyn_19 Start: 17133, Stop: 17723, Start Num: 22

Candidate Starts for Emalyn_19:

(Start: 22 @17133 has 72 MA's), (25, 17184), (26, 17187), (27, 17205), (30, 17217), (32, 17235), (42, 17310), (46, 17361), (53, 17436), (55, 17460), (64, 17538), (69, 17592), (74, 17631), (88, 17697), (93, 17718),

Gene: Feastonyeet_19 Start: 17545, Stop: 18132, Start Num: 22

Candidate Starts for Feastonyeet_19:

(Start: 22 @17545 has 72 MA's), (28, 17620), (32, 17644), (44, 17734), (53, 17845), (54, 17854), (55, 17869), (64, 17947), (74, 18040),

Gene: Fribs8_21 Start: 18650, Stop: 19213, Start Num: 22

Candidate Starts for Fribs8_21:

(Start: 22 @18650 has 72 MA's), (28, 18725), (29, 18728), (32, 18743), (43, 18824), (53, 18950), (64, 19043), (71, 19109), (75, 19139), (87, 19187),

Gene: GTE2_18 Start: 17225, Stop: 17770, Start Num: 25

Candidate Starts for GTE2_18:

(Start: 22 @17174 has 72 MA's), (25, 17225), (30, 17258), (31, 17267), (32, 17276), (42, 17351), (46, 17402), (53, 17477), (55, 17501), (64, 17579), (69, 17633), (71, 17645), (73, 17660), (74, 17672), (88, 17744), (93, 17765),

Gene: Getalong_23 Start: 19482, Stop: 20015, Start Num: 22

Candidate Starts for Getalong_23:

(15, 19353), (19, 19464), (Start: 22 @19482 has 72 MA's), (25, 19533), (28, 19557), (29, 19560), (32, 19575), (44, 19662), (45, 19671), (49, 19737), (51, 19767), (53, 19773), (55, 19788), (58, 19806), (59, 19809), (61, 19830), (64, 19866), (66, 19884), (68, 19917), (82, 20001),

Gene: GiKK_23 Start: 17167, Stop: 17742, Start Num: 22

Candidate Starts for GiKK_23:

(Start: 22 @17167 has 72 MA's), (23, 17182), (25, 17218), (28, 17242), (34, 17275), (36, 17290), (39, 17299), (43, 17335), (46, 17386), (53, 17461), (64, 17563), (67, 17599), (69, 17617), (71, 17629), (77,

17671), (92, 17734),

Gene: Gibbous_20 Start: 18066, Stop: 18629, Start Num: 22

Candidate Starts for Gibbous_20:

(Start: 22 @18066 has 72 MA's), (28, 18141), (29, 18144), (32, 18159), (43, 18240), (46, 18291), (53, 18366), (64, 18459), (71, 18525), (75, 18555), (87, 18603),

Gene: GoldHunter_21 Start: 17847, Stop: 18407, Start Num: 24

Candidate Starts for GoldHunter_21:

(13, 17688), (Start: 22 @17829 has 72 MA's), (24, 17847), (32, 17922), (46, 18054), (50, 18120), (53, 18129), (64, 18222), (65, 18234), (71, 18288), (74, 18315), (79, 18345), (88, 18381),

Gene: Heinz_21 Start: 17073, Stop: 17657, Start Num: 22

Candidate Starts for Heinz_21:

(Start: 22 @17073 has 72 MA's), (25, 17124), (32, 17166), (36, 17202), (52, 17370), (53, 17373), (64, 17466), (86, 17607), (90, 17628), (95, 17649), (96, 17652),

Gene: Hexbug_22 Start: 17853, Stop: 18434, Start Num: 22

Candidate Starts for Hexbug_22:

(4, 17529), (9, 17613), (11, 17658), (Start: 22 @17853 has 72 MA's), (28, 17928), (29, 17931), (32, 17946), (33, 17958), (35, 17970), (47, 18096), (48, 18111), (53, 18153), (54, 18162), (55, 18177), (57, 18192), (62, 18246), (64, 18255), (78, 18366), (92, 18426),

Gene: Hibiscus_20 Start: 17021, Stop: 17605, Start Num: 22

Candidate Starts for Hibiscus_20:

(Start: 22 @17021 has 72 MA's), (25, 17072), (32, 17114), (36, 17150), (52, 17318), (53, 17321), (64, 17414), (86, 17555), (90, 17576), (95, 17597), (96, 17600),

Gene: HippoPololi_22 Start: 18718, Stop: 19281, Start Num: 22

Candidate Starts for HippoPololi_22:

(Start: 22 @18718 has 72 MA's), (28, 18793), (29, 18796), (32, 18811), (43, 18892), (46, 18943), (53, 19018), (64, 19111), (75, 19207), (87, 19255),

Gene: Horseradish_21 Start: 17379, Stop: 17969, Start Num: 22

Candidate Starts for Horseradish_21:

(Start: 22 @17379 has 72 MA's), (25, 17430), (27, 17451), (30, 17463), (32, 17481), (46, 17607), (53, 17682), (55, 17706), (64, 17784), (69, 17838), (71, 17850), (74, 17877), (85, 17922), (88, 17943),

Gene: JacoRen57_25 Start: 24411, Stop: 25172, Start Num: 22

Candidate Starts for JacoRen57_25:

(Start: 22 @24411 has 72 MA's), (25, 24462), (32, 24510), (33, 24522), (40, 24558), (46, 24633), (50, 24699), (60, 24762), (63, 24798), (64, 24807), (65, 24819), (74, 24906), (81, 24942), (94, 25002), (100, 25110), (102, 25161),

Gene: Jamzy_23 Start: 17177, Stop: 17752, Start Num: 22

Candidate Starts for Jamzy_23:

(Start: 22 @17177 has 72 MA's), (23, 17192), (25, 17228), (28, 17252), (34, 17285), (36, 17300), (39, 17309), (43, 17345), (46, 17396), (53, 17471), (64, 17573), (67, 17609), (69, 17627), (71, 17639), (77, 17681), (92, 17744),

Gene: Jojo24_20 Start: 17018, Stop: 17602, Start Num: 22

Candidate Starts for Jojo24_20:

(Start: 22 @17018 has 72 MA's), (25, 17069), (32, 17111), (36, 17147), (53, 17318), (64, 17411), (86, 17552), (90, 17573), (95, 17594), (96, 17597),

Gene: JonJames_49 Start: 35611, Stop: 36183, Start Num: 22

Candidate Starts for JonJames_49:

(16, 35521), (17, 35557), (Start: 22 @35611 has 72 MA's), (25, 35662), (32, 35704), (36, 35740), (52, 35908), (53, 35911), (64, 36004), (69, 36058), (76, 36109), (79, 36127), (90, 36166),

Gene: KayGee_19 Start: 17498, Stop: 18085, Start Num: 22

Candidate Starts for KayGee_19:

(Start: 22 @17498 has 72 MA's), (28, 17573), (32, 17597), (44, 17687), (53, 17798), (55, 17822), (64, 17900), (79, 18023),

Gene: Kenna_21 Start: 18683, Stop: 19216, Start Num: 22

Candidate Starts for Kenna_21:

(18, 18650), (Start: 22 @18683 has 72 MA's), (25, 18734), (29, 18761), (32, 18776), (44, 18863), (45, 18872), (49, 18938), (50, 18965), (53, 18974), (61, 19031), (64, 19067), (66, 19085), (68, 19118),

Gene: Kuwabara_21 Start: 18109, Stop: 18642, Start Num: 22

Candidate Starts for Kuwabara_21:

(18, 18076), (Start: 22 @18109 has 72 MA's), (25, 18160), (29, 18187), (32, 18202), (44, 18289), (45, 18298), (49, 18364), (50, 18391), (53, 18400), (61, 18457), (64, 18493), (66, 18511), (68, 18544), (82, 18628),

Gene: Lauer_19 Start: 17547, Stop: 18134, Start Num: 22

Candidate Starts for Lauer_19:

(Start: 22 @17547 has 72 MA's), (28, 17622), (32, 17646), (44, 17736), (47, 17790), (53, 17847), (55, 17871), (64, 17949), (79, 18072),

Gene: Lutum_22 Start: 18683, Stop: 19216, Start Num: 22

Candidate Starts for Lutum_22:

(18, 18650), (Start: 22 @18683 has 72 MA's), (25, 18734), (29, 18761), (32, 18776), (44, 18863), (45, 18872), (49, 18938), (50, 18965), (53, 18974), (61, 19031), (64, 19067), (66, 19085), (68, 19118),

Gene: MAnor_20 Start: 17509, Stop: 18096, Start Num: 22

Candidate Starts for MAnor_20:

(Start: 22 @17509 has 72 MA's), (28, 17584), (32, 17608), (53, 17809), (54, 17818), (55, 17833), (64, 17911), (79, 18034),

Gene: MScarn_22 Start: 17468, Stop: 18058, Start Num: 22

Candidate Starts for MScarn_22:

(Start: 22 @17468 has 72 MA's), (25, 17519), (27, 17540), (30, 17552), (32, 17570), (42, 17645), (46, 17696), (53, 17771), (55, 17795), (64, 17873), (69, 17927), (71, 17939), (74, 17966), (85, 18011), (88, 18032),

Gene: MaVan_22 Start: 18806, Stop: 19369, Start Num: 22

Candidate Starts for MaVan_22:

(Start: 22 @18806 has 72 MA's), (28, 18881), (29, 18884), (32, 18899), (38, 18941), (46, 19031), (53, 19106), (64, 19199), (70, 19256), (91, 19364),

Gene: MakoManhole_43 Start: 35977, Stop: 36555, Start Num: 22

Candidate Starts for MakoManhole_43:

(2, 35602), (12, 35788), (Start: 20 @35959 has 2 MA's), (Start: 22 @35977 has 72 MA's), (25, 36028), (30, 36061), (32, 36079), (33, 36094), (53, 36280), (55, 36304), (64, 36382), (71, 36448), (72, 36460),

Gene: Margaret_23 Start: 17546, Stop: 18121, Start Num: 22

Candidate Starts for Margaret_23:

(Start: 22 @17546 has 72 MA's), (23, 17561), (25, 17597), (28, 17621), (34, 17654), (36, 17669), (39, 17678), (43, 17714), (46, 17765), (49, 17804), (53, 17840), (64, 17942), (67, 17978), (69, 17996), (71, 18008), (92, 18113),

Gene: Mayweather_21 Start: 18124, Stop: 18711, Start Num: 22

Candidate Starts for Mayweather_21:

(Start: 22 @18124 has 72 MA's), (28, 18199), (32, 18223), (44, 18313), (53, 18424), (54, 18433), (55, 18448), (64, 18526), (79, 18649),

Gene: MortyNRick_21 Start: 18415, Stop: 18948, Start Num: 22

Candidate Starts for MortyNRick_21:

(18, 18382), (Start: 22 @18415 has 72 MA's), (25, 18466), (29, 18493), (32, 18508), (44, 18595), (45, 18604), (49, 18670), (50, 18697), (53, 18706), (61, 18763), (64, 18799), (66, 18817), (68, 18850), (82, 18934),

Gene: MossRose_43 Start: 35938, Stop: 36534, Start Num: 20

Candidate Starts for MossRose_43:

(2, 35581), (12, 35767), (Start: 20 @35938 has 2 MA's), (Start: 22 @35956 has 72 MA's), (25, 36007), (30, 36040), (32, 36058), (33, 36073), (53, 36259), (55, 36283), (64, 36361), (71, 36427), (72, 36439),

Gene: MunkgeeRoachy_21 Start: 17876, Stop: 18454, Start Num: 22

Candidate Starts for MunkgeeRoachy_21:

(Start: 22 @17876 has 72 MA's), (24, 17894), (32, 17969), (46, 18101), (50, 18167), (53, 18176), (64, 18269), (71, 18335), (74, 18362), (79, 18392), (88, 18428),

Gene: NHagos_41 Start: 34560, Stop: 35138, Start Num: 22

Candidate Starts for NHagos_41:

(Start: 20 @34542 has 2 MA's), (Start: 22 @34560 has 72 MA's), (25, 34611), (32, 34662), (33, 34677), (53, 34863), (55, 34887), (64, 34965), (71, 35031), (88, 35124),

Gene: Nibbles_22 Start: 18806, Stop: 19369, Start Num: 22

Candidate Starts for Nibbles_22:

(Start: 22 @18806 has 72 MA's), (28, 18881), (29, 18884), (32, 18899), (38, 18941), (46, 19031), (53, 19106), (64, 19199), (70, 19256), (91, 19364),

Gene: Nina_21 Start: 18870, Stop: 19448, Start Num: 22

Candidate Starts for Nina_21:

(13, 18729), (Start: 22 @18870 has 72 MA's), (24, 18888), (32, 18963), (46, 19095), (50, 19161), (53, 19170), (64, 19263), (71, 19329), (74, 19356), (79, 19386), (88, 19422),

Gene: Nodigi_22 Start: 17832, Stop: 18413, Start Num: 22

Candidate Starts for Nodigi_22:

(4, 17508), (9, 17592), (10, 17610), (11, 17637), (Start: 22 @17832 has 72 MA's), (28, 17907), (29, 17910), (32, 17925), (33, 17937), (35, 17949), (47, 18075), (48, 18090), (53, 18132), (54, 18141), (55, 18156), (57, 18171), (62, 18225), (64, 18234), (78, 18345), (92, 18405),

Gene: Orla_22 Start: 17836, Stop: 18417, Start Num: 22

Candidate Starts for Orla_22:

(Start: 22 @17836 has 72 MA's), (29, 17914), (32, 17929), (33, 17941), (35, 17953), (48, 18094), (53, 18136), (54, 18145), (55, 18160), (57, 18175), (62, 18229), (64, 18238), (78, 18349), (92, 18409),

Gene: Periwinkle_24 Start: 19149, Stop: 19682, Start Num: 22

Candidate Starts for Periwinkle_24:

(19, 19131), (Start: 22 @19149 has 72 MA's), (25, 19200), (28, 19224), (29, 19227), (32, 19242), (37, 19284), (44, 19329), (45, 19338), (49, 19404), (51, 19434), (53, 19440), (55, 19455), (58, 19473), (59, 19476), (61, 19497), (64, 19533), (66, 19551), (68, 19584),

Gene: Pons_20 Start: 17499, Stop: 18086, Start Num: 22

Candidate Starts for Pons_20:

(Start: 22 @17499 has 72 MA's), (28, 17574), (32, 17598), (44, 17688), (53, 17799), (54, 17808), (55, 17823), (64, 17901), (74, 17994),

Gene: PotPie_20 Start: 18364, Stop: 18951, Start Num: 22

Candidate Starts for PotPie_20:

(Start: 22 @18364 has 72 MA's), (28, 18439), (32, 18463), (37, 18505), (44, 18553), (53, 18664), (54, 18673), (55, 18688), (64, 18766), (79, 18889),

Gene: PsychoKiller_20 Start: 17846, Stop: 18406, Start Num: 24

Candidate Starts for PsychoKiller_20:

(13, 17687), (Start: 22 @17828 has 72 MA's), (24, 17846), (32, 17921), (46, 18053), (50, 18119), (53, 18128), (64, 18221), (65, 18233), (71, 18287), (74, 18314), (79, 18344), (88, 18380),

Gene: Quasar_20 Start: 18437, Stop: 19015, Start Num: 22

Candidate Starts for Quasar_20:

(13, 18296), (Start: 22 @18437 has 72 MA's), (24, 18455), (32, 18530), (46, 18662), (50, 18728), (53, 18737), (64, 18830), (65, 18842), (71, 18896), (74, 18923), (79, 18953), (88, 18989),

Gene: RRH1_05 Start: 3586, Stop: 4320, Start Num: 21

Candidate Starts for RRH1_05:

(1, 3157), (7, 3295), (14, 3457), (Start: 21 @3586 has 1 MA's), (25, 3637), (27, 3658), (29, 3664), (30, 3670), (41, 3736), (45, 3778), (53, 3880), (61, 3937), (64, 3973), (84, 4111), (97, 4171), (99, 4231), (101, 4300),

Gene: RedBaron_21 Start: 17872, Stop: 18450, Start Num: 22

Candidate Starts for RedBaron_21:

(Start: 22 @17872 has 72 MA's), (24, 17890), (32, 17965), (46, 18097), (50, 18163), (53, 18172), (64, 18265), (71, 18331), (74, 18358), (79, 18388), (88, 18424),

Gene: Reyja_21 Start: 17192, Stop: 17776, Start Num: 22

Candidate Starts for Reyja_21:

(3, 16829), (5, 16868), (6, 16895), (8, 16916), (Start: 22 @17192 has 72 MA's), (25, 17243), (29, 17270), (32, 17285), (33, 17297), (36, 17321), (41, 17336), (53, 17492), (56, 17516), (64, 17585), (90, 17747), (95, 17768),

Gene: Santhid_20 Start: 17026, Stop: 17610, Start Num: 22

Candidate Starts for Santhid_20:

(Start: 22 @17026 has 72 MA's), (25, 17077), (32, 17119), (36, 17155), (53, 17326), (64, 17419), (86, 17560), (90, 17581), (95, 17602),

Gene: SheckWes_19 Start: 17499, Stop: 18086, Start Num: 22

Candidate Starts for SheckWes_19:

(Start: 22 @17499 has 72 MA's), (28, 17574), (32, 17598), (37, 17640), (44, 17688), (53, 17799), (54, 17808), (55, 17823), (64, 17901), (74, 17994),

Gene: SketchMex_19 Start: 17483, Stop: 18073, Start Num: 22

Candidate Starts for SketchMex_19:

(Start: 22 @17483 has 72 MA's), (25, 17534), (27, 17555), (30, 17567), (32, 17585), (42, 17660), (46, 17711), (53, 17786), (55, 17810), (64, 17888), (69, 17942), (71, 17954), (74, 17981), (85, 18026), (88, 18047),

Gene: Sopespian_20 Start: 17847, Stop: 18407, Start Num: 24

Candidate Starts for Sopespian_20:

(13, 17688), (Start: 22 @17829 has 72 MA's), (24, 17847), (32, 17922), (46, 18054), (50, 18120), (53, 18129), (64, 18222), (65, 18234), (71, 18288), (74, 18315), (79, 18345), (88, 18381),

Gene: SteamedHams_22 Start: 17501, Stop: 18097, Start Num: 22

Candidate Starts for SteamedHams_22:

(Start: 22 @17501 has 72 MA's), (25, 17552), (27, 17573), (30, 17585), (32, 17603), (42, 17678), (53, 17804), (55, 17828), (64, 17906), (73, 17987), (74, 17999), (80, 18032), (88, 18071), (93, 18092),

Gene: SummitAcademy_19 Start: 17579, Stop: 18166, Start Num: 22

Candidate Starts for SummitAcademy_19:

(Start: 22 @17579 has 72 MA's), (28, 17654), (32, 17678), (37, 17720), (44, 17768), (53, 17879), (54, 17888), (55, 17903), (64, 17981), (79, 18104),

Gene: Survivors_22 Start: 18655, Stop: 19218, Start Num: 22

Candidate Starts for Survivors_22:

(Start: 22 @18655 has 72 MA's), (28, 18730), (29, 18733), (32, 18748), (38, 18790), (46, 18880), (53, 18955), (64, 19048), (70, 19105), (91, 19213),

Gene: SweatNTears_22 Start: 17994, Stop: 18584, Start Num: 22

Candidate Starts for SweatNTears_22:

(Start: 22 @17994 has 72 MA's), (25, 18045), (27, 18066), (30, 18078), (32, 18096), (42, 18171), (46, 18222), (53, 18297), (55, 18321), (64, 18399), (69, 18453), (71, 18465), (74, 18492), (85, 18537), (88, 18558),

Gene: Tarzan_20 Start: 16995, Stop: 17579, Start Num: 22

Candidate Starts for Tarzan_20:

(6, 16698), (8, 16719), (Start: 22 @16995 has 72 MA's), (25, 17046), (29, 17073), (32, 17088), (33, 17100), (36, 17124), (41, 17139), (53, 17295), (56, 17319), (64, 17388), (86, 17529), (90, 17550), (95, 17571),

Gene: Toil_31 Start: 15291, Stop: 15974, Start Num: 22

Candidate Starts for Toil_31:

(Start: 22 @15291 has 72 MA's), (25, 15342), (29, 15369), (41, 15447), (42, 15468), (45, 15489), (47, 15534), (49, 15555), (53, 15591), (64, 15684), (65, 15696), (79, 15807), (83, 15819), (89, 15855),

Gene: Tolls_22 Start: 17504, Stop: 18100, Start Num: 22

Candidate Starts for Tolls_22:

(Start: 22 @17504 has 72 MA's), (25, 17555), (27, 17576), (32, 17606), (42, 17681), (53, 17807), (55, 17831), (64, 17909), (73, 17990), (74, 18002), (80, 18035), (88, 18074), (93, 18095),

Gene: Troje_20 Start: 17465, Stop: 18055, Start Num: 22

Candidate Starts for Troje_20:

(Start: 22 @17465 has 72 MA's), (25, 17516), (27, 17537), (30, 17549), (32, 17567), (42, 17642), (46, 17693), (53, 17768), (55, 17792), (64, 17870), (69, 17924), (71, 17936), (74, 17963), (85, 18008), (88, 18029),

Gene: Typhonomachy_21 Start: 17846, Stop: 18406, Start Num: 24

Candidate Starts for Typhonomachy_21:

(13, 17687), (Start: 22 @17828 has 72 MA's), (24, 17846), (32, 17921), (46, 18053), (50, 18119), (53, 18128), (64, 18221), (71, 18287), (74, 18314), (79, 18344), (88, 18380),

Gene: UnionJack_7 Start: 4229, Stop: 4894, Start Num: 21

Candidate Starts for UnionJack_7:

(Start: 21 @4229 has 1 MA's), (23, 4244), (25, 4280), (53, 4529), (59, 4565), (61, 4586), (64, 4637), (65, 4649), (98, 4880),

Gene: Vine_21 Start: 18511, Stop: 19098, Start Num: 22

Candidate Starts for Vine_21:

(Start: 22 @18511 has 72 MA's), (28, 18586), (32, 18610), (53, 18811), (55, 18835), (64, 18913), (79, 19036),

Gene: Wooper_43 Start: 35976, Stop: 36572, Start Num: 20

Candidate Starts for Wooper_43:

(2, 35619), (Start: 20 @35976 has 2 MA's), (Start: 22 @35994 has 72 MA's), (25, 36045), (30, 36078), (32, 36096), (33, 36111), (53, 36297), (55, 36321), (64, 36399), (71, 36465), (72, 36477),

Gene: Yakult_21 Start: 17400, Stop: 17975, Start Num: 22

Candidate Starts for Yakult_21:

(Start: 22 @17400 has 72 MA's), (25, 17451), (28, 17475), (34, 17508), (39, 17532), (43, 17568), (46, 17619), (49, 17658), (53, 17694), (64, 17796), (67, 17832), (71, 17862), (92, 17967),

Gene: Yarn_19 Start: 17494, Stop: 18090, Start Num: 22

Candidate Starts for Yarn_19:

(Start: 22 @17494 has 72 MA's), (25, 17545), (27, 17566), (30, 17578), (32, 17596), (42, 17671), (53, 17797), (55, 17821), (64, 17899), (73, 17980), (74, 17992), (80, 18025), (88, 18064), (93, 18085),

Gene: Yummy_21 Start: 17379, Stop: 17969, Start Num: 22

Candidate Starts for Yummy_21:

(Start: 22 @17379 has 72 MA's), (25, 17430), (27, 17451), (30, 17463), (32, 17481), (46, 17607), (53, 17682), (55, 17706), (64, 17784), (69, 17838), (71, 17850), (74, 17877), (85, 17922), (88, 17943),

Gene: Yvonnetastic_47 Start: 33146, Stop: 33718, Start Num: 22

Candidate Starts for Yvonnetastic_47:

(16, 33056), (17, 33092), (Start: 22 @33146 has 72 MA's), (25, 33197), (32, 33239), (36, 33275), (52, 33443), (53, 33446), (64, 33539), (69, 33593), (76, 33644), (79, 33662), (90, 33701),

Gene: Zareef_24 Start: 18807, Stop: 19370, Start Num: 22

Candidate Starts for Zareef_24:

(Start: 22 @18807 has 72 MA's), (28, 18882), (29, 18885), (32, 18900), (38, 18942), (46, 19032), (53, 19107), (64, 19200), (70, 19257), (91, 19365),