





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 154588 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154588 has 113 members, 19 are drafts.

Phages represented in each track:

- Track 1 : VanDeWege\_32
- Track 2 : Togo\_29, Portcullis\_29, SmokingBunny\_29, Shinji\_29
- Track 3 : Savbucketdawg\_29, Jambalaya\_29, PinkCoffee\_31
- Track 4 : Gezellig\_30, Halo3\_30, ClamChowder\_31, PullumCavea\_29, KimmyK\_31, Fugax\_31, Barb\_31, Salvador\_29, Phlop\_29, Evamon\_29, Wizard\_29, Twister6\_31, Arri\_32, Danyall\_31
- Track 5 : TillyBobJoe\_29
- Track 6 : YungMoney\_31
- Track 7 : Fireball\_30
- Track 8 : RogerDodger\_32
- Track 9 : Nubi\_29
- Track 10 : Valary\_32
- Track 11 : Bakery\_30
- Track 12 : Mutzi\_31
- Track 13 : Clown\_33
- Track 14 : Belphegor\_31
- Track 15 : Nordenberg\_27
- Track 16 : ChadMasterC\_33
- Track 17 : LilHam\_30, Ashertheman\_33, SchottB\_31, Baumdotcom\_32
- Track 18 : Bizzy\_33
- Track 19 : Brandonk123\_34
- Track 20 : Shivanishola\_34
- Track 21 : Lennon\_33, Sitar\_33
- Track 22 : Geodirt\_30
- Track 23 : Love\_36
- Track 24 : RiverRaider\_34
- Track 25 : Gaea\_32
- Track 26 : McKinley\_35
- Track 27 : BobBob\_30, Tangent\_33
- Track 28 : Kewpiedoll\_32
- Track 29 : Fosterous\_31
- Track 30 : Fitzgerald\_31
- Track 31 : Ribeye\_33, Derg\_30, Baddon\_32
- Track 32 : YorkOnyx\_33
- Track 33 : Saronaya\_32, Gustavo\_32
- Track 34 : Sedona\_33, Keitabear\_33
- Track 35 : Galadriel\_33

- Track 36 : Charming\_33
- Track 37 : Barsten\_33
- Track 38 : Flatwoods\_33
- Track 39 : Tangerine\_32
- Track 40 : Kamashten\_32, Thing3\_32
- Track 41 : Affeca\_31, Angelicage\_31
- Track 42 : Rofo\_33, Paries\_35
- Track 43 : JKSyngboy\_30
- Track 44 : Jabberwocky\_31, Sanjuju\_31
- Track 45 : Kroos\_33
- Track 46 : Kwobi\_33
- Track 47 : Stultus\_31
- Track 48 : MoontowerMania\_32
- Track 49 : Ailee\_31
- Track 50 : Bibwit\_32
- Track 51 : Tycho\_32
- Track 52 : Vivi2\_35
- Track 53 : StorminNorm\_32
- Track 54 : Leonard\_31, Phinally\_31
- Track 55 : Inspectinfecti\_32
- Track 56 : EMoore\_29
- Track 57 : Hans\_33, Phauci\_24
- Track 58 : Ali17\_29
- Track 59 : MelBins\_32
- Track 60 : Kwekel\_30
- Track 61 : Twonlo\_28, Chickadee\_30, Tiamoceli\_31
- Track 62 : GTE6\_30
- Track 63 : RoadKill\_28
- Track 64 : Dxdert\_31
- Track 65 : EdmundFerry\_29
- Track 66 : Scioto\_33, Natkenzie\_33, Abblin\_33, Sampson\_33
- Track 67 : DoctorFroggo\_32, Verity\_32, Delrey21\_32
- Track 68 : ViaConlectus\_33, APunk\_34
- Track 69 : Zipp\_32
- Track 70 : Tardus\_34
- Track 71 : Zitch\_34
- Track 72 : Lilbeanie\_28

***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 58 of the 94 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk\_34, Abblin\_33, Affeca\_31, Ailee\_31, Angelicage\_31, Ashertheman\_33, Baddon\_32, Barsten\_33, Baumdotcom\_32, Bibwit\_32, Bizzy\_33, BobBob\_30, Brandonk123\_34, ChadMasterC\_33, Charming\_33, Chickadee\_30, Delrey21\_32, Derg\_30, Dxdert\_31, DoctorFroggo\_32, EdmundFerry\_29, Fitzgerald\_31, Flatwoods\_33, Fosterous\_31, GTE6\_30, Gaea\_32, Galadriel\_33, Geodirt\_30, Gustavo\_32, JKSyngboy\_30, Jabberwocky\_31, Kamashten\_32, Keitabear\_33,

Kewpiedoll\_32, Kroos\_33, Kwekel\_30, Kwobi\_33, Lennon\_33, LilHam\_30, Lilbeanie\_28, Love\_36, McKinley\_35, MoontowerMania\_32, Natkenzie\_33, Nordenberg\_27, Paries\_35, Ribeye\_33, RiverRaider\_34, RoadKill\_28, Rofo\_33, Sampson\_33, Sanjuju\_31, Saronaya\_32, SchottB\_31, Scioto\_33, Sedona\_33, Shivanishola\_34, Sitar\_33, StorminNorm\_32, Stultus\_31, Tangent\_33, Tangerine\_32, Tardus\_34, Thing3\_32, Tiamoceli\_31, Twonlo\_28, Tycho\_32, Verity\_32, ViaConfectus\_33, Vivi2\_35, YorkOnyx\_33, Zipp\_32, Zitch\_34,

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

- 

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

- Ali17\_29, Arri\_32, Bakery\_30, Barb\_31, Belphegor\_31, ClamChowder\_31, Clown\_33, Danyall\_31, EMoore\_29, Evamon\_29, Fireball\_30, Fugax\_31, Gezellig\_30, Halo3\_30, Hans\_33, Inspectinfecti\_32, Jambalaya\_29, KimmyK\_31, Leonard\_31, MelBins\_32, Mutzi\_31, Nubi\_29, Phauci\_24, Phinally\_31, Phlop\_29, PinkCoffee\_31, Portcullis\_29, PullumCavea\_29, RogerDodger\_32, Salvador\_29, Savbucketdawg\_29, Shinji\_29, SmokingBunny\_29, TillyBobJoe\_29, Togo\_29, Twister6\_31, Valary\_32, VanDeWege\_32, Wizard\_29, YungMoney\_31,

### Summary by start number:

Start 1:

- Found in 31 of 113 ( 27.4% ) of genes in pham
- Manual Annotations of this start: 29 of 94
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arri\_32 (DC1), Bakery\_30 (DC1), Barb\_31 (DC1), ClamChowder\_31 (DC1), Clown\_33 (DC2), Danyall\_31 (DC1), Evamon\_29 (DC1), Fireball\_30 (DC1), Fugax\_31 (DC1), Gezellig\_30 (DC1), Halo3\_30 (DC1), Jambalaya\_29 (DC1), KimmyK\_31 (DC1), Mutzi\_31 (DC1), Nubi\_29 (DC1), Phlop\_29 (DC1), PinkCoffee\_31 (DC1), Portcullis\_29 (DC1), PullumCavea\_29 (DC1), RogerDodger\_32 (DC1), Salvador\_29 (DC1), Savbucketdawg\_29 (DC1), Shinji\_29 (DC1), SmokingBunny\_29 (DC1), TillyBobJoe\_29 (DC1), Togo\_29 (DC1), Twister6\_31 (DC1), Valary\_32 (DC1), VanDeWege\_32 (DC1), Wizard\_29 (DC1), YungMoney\_31 (DC1),

Start 11:

- Found in 73 of 113 ( 64.6% ) of genes in pham
- Manual Annotations of this start: 58 of 94
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk\_34 (DE4), Abblin\_33 (DE4), Affeca\_31 (DE1), Ailee\_31 (DE1), Angelicage\_31 (DE1), Ashertheman\_33 (DE1), Baddon\_32 (DE1), Barsten\_33 (DE1), Baumdotcom\_32 (DE1), Bibwit\_32 (DE1), Bizzy\_33 (DE1), BobBob\_30 (DE1), Brandonk123\_34 (DE1), ChadMasterC\_33 (DE1), Charming\_33 (DE1), Chickadee\_30 (DE3), Delrey21\_32 (DE4), Derg\_30 (DE1), Dextert\_31 (DE3), DoctorFroggo\_32 (DE4), EdmundFerry\_29 (DE3), Fitzgerald\_31 (DE1), Flatwoods\_33 (DE1), Fosterous\_31 (DE1), GTE6\_30 (DE3), Gaea\_32 (DE1), Galadriel\_33 (DE1), Geodirt\_30 (DE1), Gustavo\_32 (DE1), JKSyngboy\_30 (DE1), Jabberwocky\_31 (DE1), Kamashten\_32 (DE1), Keitabear\_33 (DE1), Kewpiedoll\_32 (DE1), Kroos\_33 (DE1), Kwekel\_30 (DE3), Kwobi\_33 (DE1), Lennon\_33 (DE1), LilHam\_30 (DE1), Lilbeanie\_28 (DE5), Love\_36 (DE1), McKinley\_35 (DE1), MoontowerMania\_32 (DE1), Natkenzie\_33 (DE4), Nordenberg\_27 (DE1), Paries\_35 (DE1), Ribeye\_33 (DE1), RiverRaider\_34 (DE1),

RoadKill\_28 (DE3), Rofo\_33 (DE1), Sampson\_33 (DE4), Sanjuju\_31 (DE1), Saronaya\_32 (DE1), SchottB\_31 (DE1), Scioto\_33 (DE4), Sedona\_33 (DE1), Shivanishola\_34 (DE1), Sitar\_33 (DE1), StorminNorm\_32 (DE1), Stultus\_31 (DE1), Tangent\_33 (DE1), Tangerine\_32 (DE1), Tardus\_34 (DE4), Thing3\_32 (DE1), Tiamoceli\_31 (DE3), Twonlo\_28 (DE3), Tycho\_32 (DE1), Verity\_32 (DE4), ViaConlectus\_33 (DE4), Vivi2\_35 (DE1), YorkOnyx\_33 (DE1), Zipp\_32 (DE4), Zitch\_34 (DE4),

Start 12:

- Found in 39 of 113 ( 34.5% ) of genes in pham
- Manual Annotations of this start: 7 of 94
- Called 23.1% of time when present
- Phage (with cluster) where this start called: Ali17\_29 (DE2), Belphegor\_31 (DE), EMOore\_29 (DE2), Hans\_33 (DE2), Inspectinfecti\_32 (DE2), Leonard\_31 (DE2), MelBins\_32 (DE2), Phauci\_24 (DE2), Phinally\_31 (DE2),

### **Summary by clusters:**

There are 8 clusters represented in this pham: DE, DE1, DE2, DE3, DE4, DE5, DC2, DC1,

Info for manual annotations of cluster DC1:

- Start number 1 was manually annotated 28 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 1 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:

- Start number 11 was manually annotated 42 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 12 was manually annotated 7 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 11 was manually annotated 6 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 11 was manually annotated 9 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 11 was manually annotated 1 time for cluster DE5.

### **Gene Information:**

Gene: APunk\_34 Start: 24307, Stop: 29232, Start Num: 11

Candidate Starts for APunk\_34:

(Start: 11 @24307 has 58 MA's), (21, 24427), (22, 24439), (26, 24481), (28, 24505), (36, 24571), (37, 24580), (44, 24652), (49, 24685), (53, 24754), (55, 24763), (58, 24781), (68, 24847), (71, 24862), (74, 24871), (81, 24934), (83, 24940), (88, 24967), (92, 24997), (94, 25006), (103, 25069), (105, 25081), (111, 25168), (114, 25180), (121, 25303), (123, 25327), (124, 25345), (125, 25357), (131, 25417),

(132, 25423), (134, 25435), (141, 25546), (142, 25582), (143, 25621), (144, 25633), (147, 25675), (149, 25705), (152, 25747), (153, 25756), (154, 25759), (156, 25789), (157, 25822), (166, 25915), (169, 25936), (173, 25951), (180, 26038), (182, 26059), (183, 26080), (185, 26134), (188, 26167), (191, 26218), (198, 26266), (199, 26275), (203, 26335), (204, 26347), (206, 26368), (208, 26374), (220, 26416), (221, 26422), (223, 26437), (224, 26443), (231, 26524), (232, 26527), (234, 26548), (238, 26602), (242, 26665), (250, 26722), (264, 26809), (273, 26875), (297, 26932), (298, 26935), (301, 26959), (312, 27049), (318, 27097), (349, 27325), (352, 27343), (355, 27400), (365, 27490), (370, 27553), (382, 27634), (384, 27661), (389, 27733), (390, 27742), (394, 27802), (402, 27913), (414, 28141), (416, 28150), (419, 28177), (422, 28219), (424, 28279), (432, 28441), (433, 28468), (436, 28540), (437, 28579), (452, 28786), (457, 28858), (464, 28924), (475, 29059), (485, 29122), (486, 29125), (488, 29143), (489, 29158), (491, 29185), (492, 29197),

Gene: Abblin\_33 Start: 24850, Stop: 29775, Start Num: 11

Candidate Starts for Abblin\_33:

(Start: 11 @24850 has 58 MA's), (21, 24970), (22, 24982), (26, 25024), (28, 25048), (36, 25114), (37, 25123), (42, 25168), (44, 25195), (53, 25297), (55, 25306), (58, 25324), (68, 25390), (71, 25405), (74, 25414), (81, 25477), (83, 25483), (88, 25510), (92, 25540), (94, 25549), (101, 25597), (103, 25612), (105, 25624), (111, 25711), (114, 25723), (121, 25846), (123, 25870), (124, 25888), (131, 25960), (132, 25966), (134, 25978), (141, 26089), (142, 26125), (143, 26164), (144, 26176), (147, 26218), (149, 26248), (152, 26290), (153, 26299), (154, 26302), (156, 26332), (157, 26365), (166, 26458), (173, 26494), (177, 26551), (180, 26581), (183, 26623), (185, 26677), (186, 26683), (188, 26710), (191, 26761), (197, 26797), (198, 26809), (199, 26818), (203, 26878), (204, 26890), (206, 26911), (208, 26917), (220, 26959), (221, 26965), (223, 26980), (224, 26986), (227, 27031), (231, 27067), (232, 27070), (238, 27145), (242, 27208), (250, 27265), (263, 27346), (270, 27397), (288, 27454), (297, 27475), (298, 27478), (301, 27502), (318, 27640), (322, 27661), (349, 27868), (352, 27886), (355, 27943), (365, 28033), (370, 28096), (382, 28177), (384, 28204), (389, 28276), (390, 28285), (394, 28345), (402, 28456), (414, 28687), (416, 28696), (419, 28723), (422, 28765), (432, 28984), (433, 29011), (436, 29083), (437, 29122), (452, 29329), (457, 29401), (464, 29467), (475, 29602), (485, 29665), (486, 29668), (488, 29686), (489, 29701), (491, 29728), (492, 29740),

Gene: Affeca\_31 Start: 24649, Stop: 29682, Start Num: 11

Candidate Starts for Affeca\_31:

(Start: 11 @24649 has 58 MA's), (26, 24823), (28, 24847), (30, 24856), (31, 24889), (33, 24907), (37, 24922), (48, 25021), (53, 25096), (54, 25102), (55, 25105), (62, 25162), (63, 25180), (65, 25189), (67, 25204), (93, 25369), (97, 25387), (98, 25399), (103, 25438), (116, 25579), (119, 25639), (121, 25672), (124, 25714), (131, 25786), (133, 25801), (134, 25804), (141, 25915), (142, 25951), (144, 26002), (147, 26044), (149, 26074), (153, 26125), (156, 26158), (157, 26191), (158, 26203), (166, 26284), (169, 26305), (172, 26317), (181, 26413), (182, 26428), (183, 26449), (184, 26500), (186, 26509), (191, 26587), (198, 26635), (199, 26644), (203, 26704), (209, 26749), (212, 26758), (220, 26785), (224, 26812), (226, 26833), (229, 26869), (236, 26935), (238, 26971), (243, 27058), (244, 27061), (248, 27088), (258, 27139), (261, 27145), (279, 27271), (297, 27346), (301, 27373), (307, 27406), (313, 27469), (320, 27523), (326, 27586), (341, 27697), (347, 27724), (348, 27730), (358, 27832), (365, 27898), (368, 27925), (372, 27952), (376, 27991), (379, 28015), (384, 28057), (389, 28129), (390, 28138), (394, 28198), (397, 28243), (416, 28558), (417, 28564), (418, 28582), (425, 28678), (429, 28783), (435, 28882), (447, 29026), (450, 29101), (453, 29113), (458, 29197), (493, 29536), (499, 29575), (500, 29581), (503, 29587), (506, 29614), (511, 29650), (512, 29662),

Gene: Ailee\_31 Start: 25358, Stop: 30172, Start Num: 11

Candidate Starts for Ailee\_31:

(Start: 11 @25358 has 58 MA's), (26, 25532), (28, 25556), (57, 25694), (67, 25733), (69, 25739), (72, 25751), (76, 25769), (79, 25781), (80, 25808), (84, 25826), (87, 25838), (103, 25937), (116, 26078), (119, 26138), (121, 26171), (124, 26213), (131, 26285), (133, 26300), (134, 26303), (141, 26414), (142, 26450), (144, 26501), (147, 26543), (149, 26573), (153, 26624), (156, 26657), (157, 26690),

(158, 26702), (166, 26783), (169, 26804), (172, 26816), (181, 26912), (182, 26927), (183, 26948), (184, 26999), (186, 27008), (191, 27086), (198, 27134), (199, 27143), (208, 27242), (209, 27248), (211, 27254), (212, 27257), (224, 27311), (226, 27332), (228, 27362), (229, 27368), (232, 27395), (250, 27590), (252, 27623), (258, 27638), (261, 27644), (268, 27689), (269, 27698), (271, 27713), (273, 27731), (279, 27770), (280, 27776), (297, 27845), (301, 27872), (307, 27905), (313, 27968), (320, 28022), (347, 28223), (348, 28229), (358, 28331), (360, 28343), (365, 28397), (368, 28424), (372, 28451), (376, 28490), (382, 28529), (384, 28556), (389, 28628), (390, 28637), (394, 28697), (397, 28742), (416, 29057), (417, 29063), (418, 29081), (425, 29177), (429, 29282), (435, 29381), (447, 29525), (450, 29600), (453, 29612), (458, 29687), (493, 30026), (499, 30065), (500, 30071), (503, 30077), (506, 30104), (511, 30140), (512, 30152),

Gene: Ali17\_29 Start: 22538, Stop: 27427, Start Num: 12

Candidate Starts for Ali17\_29:

(Start: 12 @22538 has 7 MA's), (21, 22658), (26, 22712), (28, 22736), (37, 22811), (38, 22814), (48, 22910), (53, 22985), (54, 22991), (56, 22997), (59, 23021), (61, 23030), (70, 23090), (71, 23096), (74, 23105), (79, 23135), (86, 23192), (92, 23231), (94, 23240), (95, 23243), (103, 23303), (104, 23306), (110, 23381), (111, 23390), (121, 23525), (122, 23534), (124, 23567), (126, 23591), (134, 23657), (136, 23720), (142, 23804), (143, 23843), (144, 23855), (148, 23903), (149, 23927), (153, 23978), (156, 24011), (160, 24062), (163, 24092), (167, 24149), (170, 24161), (173, 24173), (178, 24248), (183, 24302), (185, 24356), (188, 24389), (197, 24476), (198, 24488), (199, 24497), (203, 24557), (204, 24569), (206, 24590), (208, 24596), (209, 24602), (210, 24605), (211, 24608), (219, 24635), (220, 24638), (222, 24647), (223, 24659), (224, 24665), (227, 24710), (231, 24746), (232, 24749), (234, 24770), (242, 24887), (250, 24944), (264, 25031), (273, 25097), (297, 25154), (298, 25157), (301, 25181), (312, 25271), (318, 25319), (334, 25448), (343, 25517), (345, 25526), (349, 25547), (352, 25565), (354, 25583), (368, 25739), (369, 25742), (382, 25847), (390, 25955), (394, 26015), (396, 26045), (402, 26126), (415, 26357), (416, 26363), (420, 26411), (421, 26426), (424, 26492), (430, 26624), (436, 26753), (437, 26792), (464, 27119), (471, 27215), (488, 27338), (491, 27380), (492, 27392),

Gene: Angelicage\_31 Start: 25066, Stop: 30099, Start Num: 11

Candidate Starts for Angelicage\_31:

(Start: 11 @25066 has 58 MA's), (26, 25240), (28, 25264), (30, 25273), (31, 25306), (33, 25324), (37, 25339), (48, 25438), (53, 25513), (54, 25519), (55, 25522), (62, 25579), (63, 25597), (65, 25606), (67, 25621), (93, 25786), (97, 25804), (98, 25816), (103, 25855), (116, 25996), (119, 26056), (121, 26089), (124, 26131), (131, 26203), (133, 26218), (134, 26221), (141, 26332), (142, 26368), (144, 26419), (147, 26461), (149, 26491), (153, 26542), (156, 26575), (157, 26608), (158, 26620), (166, 26701), (169, 26722), (172, 26734), (181, 26830), (182, 26845), (183, 26866), (184, 26917), (186, 26926), (191, 27004), (198, 27052), (199, 27061), (203, 27121), (209, 27166), (212, 27175), (220, 27202), (224, 27229), (226, 27250), (229, 27286), (236, 27352), (238, 27388), (243, 27475), (244, 27478), (248, 27505), (258, 27556), (261, 27562), (279, 27688), (297, 27763), (301, 27790), (307, 27823), (313, 27886), (320, 27940), (326, 28003), (341, 28114), (347, 28141), (348, 28147), (358, 28249), (365, 28315), (368, 28342), (372, 28369), (376, 28408), (379, 28432), (384, 28474), (389, 28546), (390, 28555), (394, 28615), (397, 28660), (416, 28975), (417, 28981), (418, 28999), (425, 29095), (429, 29200), (435, 29299), (447, 29443), (450, 29518), (453, 29530), (458, 29614), (493, 29953), (499, 29992), (500, 29998), (503, 30004), (506, 30031), (511, 30067), (512, 30079),

Gene: Arri\_32 Start: 20088, Stop: 25619, Start Num: 1

Candidate Starts for Arri\_32:

(Start: 1 @20088 has 29 MA's), (3, 20175), (4, 20262), (6, 20295), (7, 20319), (Start: 12 @20442 has 7 MA's), (13, 20463), (14, 20469), (15, 20493), (19, 20523), (25, 20562), (32, 20646), (40, 20682), (43, 20706), (48, 20745), (100, 21135), (116, 21303), (119, 21363), (124, 21435), (125, 21447), (128, 21483), (130, 21507), (138, 21606), (139, 21609), (141, 21639), (143, 21714), (144, 21726), (147, 21768), (149, 21798), (153, 21849), (165, 21990), (166, 22008), (167, 22020), (169, 22029), (180,



22131), (182, 22152), (183, 22173), (184, 22224), (185, 22227), (186, 22233), (191, 22311), (195, 22341), (198, 22359), (203, 22428), (206, 22461), (208, 22467), (210, 22476), (213, 22482), (224, 22536), (227, 22581), (230, 22608), (231, 22617), (233, 22638), (238, 22695), (240, 22731), (248, 22812), (250, 22815), (256, 22884), (267, 22956), (276, 23052), (284, 23118), (285, 23121), (289, 23145), (293, 23172), (294, 23175), (295, 23178), (296, 23184), (304, 23253), (306, 23262), (310, 23307), (311, 23316), (322, 23394), (327, 23448), (334, 23502), (340, 23559), (350, 23601), (354, 23637), (358, 23700), (364, 23751), (377, 23862), (383, 23901), (387, 23982), (400, 24156), (401, 24159), (404, 24192), (414, 24399), (416, 24408), (417, 24414), (433, 24726), (446, 24933), (451, 25071), (463, 25221), (473, 25332), (480, 25377), (481, 25386), (482, 25392), (487, 25428), (496, 25521), (498, 25533), (505, 25563), (507, 25596), (509, 25608),

Gene: Ashertheman\_33 Start: 23943, Stop: 28961, Start Num: 11

Candidate Starts for Ashertheman\_33:

(Start: 11 @23943 has 58 MA's), (17, 24030), (21, 24063), (26, 24117), (28, 24141), (31, 24183), (33, 24201), (37, 24216), (44, 24288), (48, 24315), (53, 24390), (55, 24399), (62, 24456), (63, 24474), (64, 24480), (103, 24732), (108, 24792), (119, 24933), (121, 24966), (124, 25008), (131, 25080), (133, 25095), (134, 25098), (141, 25209), (142, 25245), (144, 25296), (147, 25338), (149, 25368), (153, 25419), (156, 25452), (157, 25485), (158, 25497), (166, 25578), (172, 25611), (173, 25614), (177, 25671), (181, 25707), (182, 25722), (183, 25743), (184, 25794), (198, 25929), (199, 25938), (206, 26031), (208, 26037), (209, 26043), (212, 26052), (217, 26064), (219, 26076), (222, 26088), (224, 26106), (229, 26163), (238, 26265), (239, 26283), (241, 26307), (244, 26355), (250, 26385), (258, 26433), (261, 26439), (278, 26562), (279, 26565), (280, 26571), (291, 26628), (297, 26640), (299, 26661), (301, 26667), (307, 26700), (313, 26763), (320, 26817), (341, 26991), (347, 27018), (348, 27024), (358, 27126), (365, 27192), (384, 27351), (390, 27432), (394, 27492), (397, 27537), (414, 27843), (416, 27852), (419, 27879), (423, 27948), (429, 28077), (435, 28176), (447, 28320), (450, 28392), (451, 28398), (453, 28404), (458, 28479), (460, 28509), (473, 28647), (482, 28707), (487, 28743), (490, 28788), (493, 28815), (499, 28854), (500, 28860), (503, 28866), (506, 28893), (511, 28929), (512, 28941),

Gene: Baddon\_32 Start: 24743, Stop: 29758, Start Num: 11

Candidate Starts for Baddon\_32:

(Start: 11 @24743 has 58 MA's), (16, 24818), (21, 24863), (26, 24917), (28, 24941), (31, 24983), (33, 25001), (37, 25016), (44, 25088), (48, 25115), (53, 25190), (55, 25199), (62, 25256), (63, 25274), (64, 25280), (67, 25298), (73, 25325), (97, 25481), (103, 25532), (105, 25544), (108, 25592), (119, 25733), (121, 25766), (124, 25808), (131, 25880), (133, 25895), (134, 25898), (141, 26009), (142, 26045), (144, 26096), (147, 26138), (149, 26168), (153, 26219), (156, 26252), (157, 26285), (158, 26297), (166, 26378), (172, 26411), (173, 26414), (177, 26471), (181, 26507), (182, 26522), (183, 26543), (184, 26594), (198, 26729), (203, 26798), (208, 26837), (209, 26843), (212, 26852), (220, 26879), (224, 26906), (226, 26927), (229, 26963), (231, 26987), (232, 26990), (235, 27026), (238, 27065), (244, 27155), (250, 27185), (258, 27233), (261, 27239), (278, 27362), (279, 27365), (280, 27371), (291, 27428), (297, 27440), (301, 27467), (307, 27500), (308, 27506), (313, 27563), (320, 27617), (326, 27680), (341, 27791), (347, 27818), (348, 27824), (358, 27926), (365, 27992), (382, 28124), (384, 28151), (390, 28232), (394, 28292), (397, 28337), (414, 28643), (416, 28652), (419, 28679), (423, 28748), (435, 28976), (447, 29120), (450, 29189), (451, 29195), (453, 29201), (458, 29276), (460, 29306), (473, 29444), (482, 29504), (487, 29540), (490, 29585), (493, 29612), (499, 29651), (500, 29657), (503, 29663), (506, 29690), (511, 29726), (512, 29738),

Gene: Bakery\_30 Start: 19326, Stop: 24842, Start Num: 1

Candidate Starts for Bakery\_30:

(Start: 1 @19326 has 29 MA's), (4, 19500), (6, 19533), (7, 19557), (Start: 12 @19680 has 7 MA's), (13, 19701), (14, 19707), (15, 19731), (19, 19761), (25, 19800), (40, 19920), (43, 19944), (48, 19983), (111, 20499), (116, 20541), (119, 20601), (124, 20673), (128, 20721), (135, 20775), (139, 20847), (141, 20877), (143, 20952), (144, 20964), (147, 21006), (149, 21036), (153, 21087), (161, 21180),

(165, 21228), (166, 21246), (167, 21258), (169, 21267), (179, 21366), (180, 21369), (182, 21390), (183, 21411), (184, 21462), (185, 21465), (191, 21549), (195, 21579), (198, 21597), (200, 21624), (203, 21666), (219, 21744), (220, 21747), (221, 21753), (224, 21774), (225, 21777), (230, 21846), (232, 21858), (238, 21933), (248, 22050), (250, 22053), (253, 22101), (276, 22290), (284, 22356), (285, 22359), (289, 22383), (294, 22413), (295, 22416), (296, 22422), (302, 22467), (304, 22491), (306, 22500), (310, 22545), (311, 22554), (313, 22566), (318, 22611), (319, 22614), (322, 22632), (327, 22686), (334, 22740), (350, 22839), (358, 22938), (364, 22989), (377, 23100), (383, 23139), (384, 23160), (387, 23220), (400, 23394), (401, 23397), (404, 23430), (414, 23640), (417, 23655), (446, 24165), (449, 24261), (451, 24294), (462, 24441), (463, 24444), (473, 24555), (481, 24609), (487, 24651), (496, 24744), (498, 24756), (505, 24786), (507, 24819), (509, 24831),

Gene: Barb\_31 Start: 20106, Stop: 25637, Start Num: 1

Candidate Starts for Barb\_31:

(Start: 1 @20106 has 29 MA's), (3, 20193), (4, 20280), (6, 20313), (7, 20337), (Start: 12 @20460 has 7 MA's), (13, 20481), (14, 20487), (15, 20511), (19, 20541), (25, 20580), (32, 20664), (40, 20700), (43, 20724), (48, 20763), (100, 21153), (116, 21321), (119, 21381), (124, 21453), (125, 21465), (128, 21501), (130, 21525), (138, 21624), (139, 21627), (141, 21657), (143, 21732), (144, 21744), (147, 21786), (149, 21816), (153, 21867), (165, 22008), (166, 22026), (167, 22038), (169, 22047), (180, 22149), (182, 22170), (183, 22191), (184, 22242), (185, 22245), (186, 22251), (191, 22329), (195, 22359), (198, 22377), (203, 22446), (206, 22479), (208, 22485), (210, 22494), (213, 22500), (224, 22554), (227, 22599), (230, 22626), (231, 22635), (233, 22656), (238, 22713), (240, 22749), (248, 22830), (250, 22833), (256, 22902), (267, 22974), (276, 23070), (284, 23136), (285, 23139), (289, 23163), (293, 23190), (294, 23193), (295, 23196), (296, 23202), (304, 23271), (306, 23280), (310, 23325), (311, 23334), (322, 23412), (327, 23466), (334, 23520), (340, 23577), (350, 23619), (354, 23655), (358, 23718), (364, 23769), (377, 23880), (383, 23919), (387, 24000), (400, 24174), (401, 24177), (404, 24210), (414, 24417), (416, 24426), (417, 24432), (433, 24744), (446, 24951), (451, 25089), (463, 25239), (473, 25350), (480, 25395), (481, 25404), (482, 25410), (487, 25446), (496, 25539), (498, 25551), (505, 25581), (507, 25614), (509, 25626),

Gene: Barsten\_33 Start: 24490, Stop: 29313, Start Num: 11

Candidate Starts for Barsten\_33:

(Start: 11 @24490 has 58 MA's), (26, 24664), (28, 24688), (57, 24826), (67, 24865), (69, 24871), (72, 24883), (76, 24901), (79, 24913), (80, 24940), (84, 24958), (87, 24970), (103, 25069), (115, 25189), (116, 25210), (119, 25270), (121, 25303), (124, 25345), (127, 25381), (131, 25417), (133, 25432), (134, 25435), (141, 25546), (142, 25582), (144, 25633), (147, 25675), (149, 25705), (153, 25756), (156, 25789), (157, 25822), (158, 25834), (166, 25915), (169, 25936), (172, 25948), (181, 26044), (182, 26059), (183, 26080), (184, 26131), (186, 26140), (191, 26218), (198, 26266), (199, 26275), (203, 26335), (209, 26380), (212, 26389), (220, 26416), (224, 26443), (226, 26464), (229, 26500), (236, 26566), (238, 26602), (243, 26689), (244, 26692), (245, 26701), (248, 26719), (258, 26770), (261, 26776), (279, 26902), (297, 26977), (301, 27004), (307, 27037), (313, 27100), (320, 27154), (326, 27217), (341, 27328), (347, 27355), (348, 27361), (358, 27463), (360, 27475), (365, 27529), (368, 27556), (372, 27583), (376, 27622), (379, 27646), (384, 27688), (389, 27760), (390, 27769), (394, 27829), (397, 27874), (416, 28189), (417, 28195), (418, 28213), (425, 28309), (429, 28414), (435, 28513), (447, 28657), (450, 28732), (453, 28744), (458, 28828), (493, 29167), (499, 29206), (500, 29212), (503, 29218), (506, 29245), (511, 29281), (512, 29293),

Gene: Baumdotcom\_32 Start: 23558, Stop: 28582, Start Num: 11

Candidate Starts for Baumdotcom\_32:

(Start: 11 @23558 has 58 MA's), (17, 23645), (21, 23678), (26, 23732), (28, 23756), (31, 23798), (33, 23816), (37, 23831), (44, 23903), (48, 23930), (53, 24005), (55, 24014), (62, 24071), (63, 24089), (64, 24095), (103, 24347), (108, 24407), (119, 24548), (121, 24581), (124, 24623), (131, 24695), (133, 24710), (134, 24713), (141, 24824), (142, 24860), (144, 24911), (147, 24953), (149, 24983), (153, 25034), (156, 25067), (157, 25100), (158, 25112), (166, 25193), (172, 25226), (173, 25229), (177,

25286), (181, 25322), (182, 25337), (183, 25358), (184, 25409), (198, 25544), (199, 25553), (206, 25646), (208, 25652), (209, 25658), (212, 25667), (217, 25679), (219, 25691), (222, 25703), (224, 25721), (229, 25778), (238, 25880), (239, 25898), (241, 25922), (244, 25970), (250, 26000), (258, 26048), (261, 26054), (278, 26177), (279, 26180), (280, 26186), (291, 26243), (297, 26255), (299, 26276), (301, 26282), (307, 26315), (313, 26378), (320, 26432), (341, 26606), (347, 26633), (348, 26639), (358, 26741), (365, 26807), (384, 26966), (390, 27047), (394, 27107), (397, 27152), (414, 27464), (416, 27473), (419, 27500), (423, 27569), (429, 27698), (435, 27797), (447, 27941), (450, 28013), (451, 28019), (453, 28025), (458, 28100), (460, 28130), (473, 28268), (482, 28328), (487, 28364), (490, 28409), (493, 28436), (499, 28475), (500, 28481), (503, 28487), (506, 28514), (511, 28550), (512, 28562),

Gene: Belphegor\_31 Start: 24145, Stop: 29028, Start Num: 12

Candidate Starts for Belphegor\_31:

(Start: 12 @24145 has 7 MA's), (20, 24262), (21, 24265), (24, 24292), (26, 24319), (28, 24343), (31, 24385), (36, 24409), (37, 24418), (38, 24421), (44, 24490), (50, 24553), (53, 24592), (54, 24598), (56, 24604), (61, 24637), (66, 24679), (70, 24697), (71, 24703), (74, 24712), (86, 24799), (103, 24910), (104, 24913), (110, 24988), (111, 24997), (112, 25000), (121, 25132), (124, 25174), (126, 25198), (132, 25252), (134, 25264), (141, 25375), (142, 25411), (143, 25450), (144, 25462), (148, 25510), (149, 25534), (153, 25585), (156, 25618), (160, 25669), (163, 25699), (167, 25756), (170, 25768), (173, 25780), (176, 25819), (178, 25855), (184, 25960), (188, 25996), (191, 26047), (199, 26104), (203, 26164), (204, 26176), (208, 26203), (209, 26209), (210, 26212), (211, 26215), (219, 26242), (220, 26245), (223, 26266), (224, 26272), (230, 26344), (234, 26377), (238, 26431), (242, 26494), (250, 26551), (252, 26584), (264, 26638), (297, 26761), (300, 26785), (301, 26788), (312, 26878), (318, 26926), (334, 27055), (343, 27124), (352, 27172), (354, 27190), (368, 27346), (371, 27376), (382, 27454), (389, 27553), (394, 27622), (396, 27652), (414, 27961), (415, 27964), (416, 27970), (421, 28033), (424, 28099), (430, 28231), (436, 28360), (437, 28399), (464, 28720), (470, 28804), (491, 28981), (492, 28993),

Gene: Bibwit\_32 Start: 24677, Stop: 29500, Start Num: 11

Candidate Starts for Bibwit\_32:

(Start: 11 @24677 has 58 MA's), (26, 24851), (28, 24875), (57, 25013), (69, 25058), (72, 25070), (76, 25088), (79, 25100), (80, 25127), (84, 25145), (87, 25157), (103, 25256), (115, 25376), (116, 25397), (119, 25457), (121, 25490), (124, 25532), (127, 25568), (131, 25604), (133, 25619), (134, 25622), (141, 25733), (142, 25769), (144, 25820), (147, 25862), (149, 25892), (153, 25943), (156, 25976), (157, 26009), (158, 26021), (166, 26102), (169, 26123), (172, 26135), (181, 26231), (182, 26246), (183, 26267), (184, 26318), (186, 26327), (191, 26405), (198, 26453), (199, 26462), (203, 26522), (209, 26567), (212, 26576), (220, 26603), (224, 26630), (226, 26651), (229, 26687), (236, 26753), (238, 26789), (243, 26876), (244, 26879), (245, 26888), (248, 26906), (258, 26957), (261, 26963), (279, 27089), (301, 27191), (307, 27224), (313, 27287), (320, 27341), (326, 27404), (341, 27515), (347, 27542), (348, 27548), (358, 27650), (365, 27716), (368, 27743), (372, 27770), (376, 27809), (379, 27833), (384, 27875), (389, 27947), (394, 28016), (397, 28061), (416, 28376), (417, 28382), (418, 28400), (425, 28496), (429, 28601), (435, 28700), (447, 28844), (450, 28919), (453, 28931), (458, 29015), (493, 29354), (499, 29393), (500, 29399), (503, 29405), (506, 29432), (511, 29468), (512, 29480),

Gene: Bizzy\_33 Start: 23890, Stop: 28905, Start Num: 11

Candidate Starts for Bizzy\_33:

(Start: 11 @23890 has 58 MA's), (16, 23965), (21, 24010), (26, 24064), (28, 24088), (31, 24130), (33, 24148), (37, 24163), (44, 24235), (48, 24262), (53, 24337), (55, 24346), (62, 24403), (63, 24421), (64, 24427), (67, 24445), (73, 24472), (103, 24679), (105, 24691), (108, 24739), (119, 24880), (121, 24913), (124, 24955), (131, 25027), (133, 25042), (134, 25045), (141, 25156), (142, 25192), (144, 25243), (147, 25285), (149, 25315), (153, 25366), (156, 25399), (157, 25432), (158, 25444), (166, 25525), (172, 25558), (173, 25561), (177, 25618), (181, 25654), (182, 25669), (183, 25690), (184,

25741), (198, 25876), (199, 25885), (206, 25978), (208, 25984), (209, 25990), (212, 25999), (219, 26023), (222, 26035), (224, 26053), (229, 26110), (238, 26212), (244, 26302), (250, 26332), (258, 26380), (261, 26386), (278, 26509), (279, 26512), (291, 26575), (297, 26587), (299, 26608), (301, 26614), (307, 26647), (313, 26710), (320, 26764), (326, 26827), (341, 26938), (347, 26965), (348, 26971), (358, 27073), (365, 27139), (382, 27271), (384, 27298), (390, 27379), (394, 27439), (397, 27484), (414, 27790), (416, 27799), (419, 27826), (423, 27895), (429, 28024), (435, 28123), (447, 28267), (450, 28336), (451, 28342), (453, 28348), (458, 28423), (460, 28453), (473, 28591), (482, 28651), (487, 28687), (490, 28732), (493, 28759), (499, 28798), (500, 28804), (503, 28810), (506, 28837), (511, 28873), (512, 28885),

Gene: BobBob\_30 Start: 23955, Stop: 28781, Start Num: 11

Candidate Starts for BobBob\_30:

(Start: 11 @23955 has 58 MA's), (26, 24129), (28, 24153), (57, 24291), (66, 24324), (69, 24336), (72, 24348), (76, 24366), (79, 24378), (84, 24423), (103, 24534), (115, 24654), (116, 24675), (119, 24735), (121, 24768), (124, 24810), (127, 24846), (131, 24882), (133, 24897), (134, 24900), (141, 25011), (142, 25047), (144, 25098), (147, 25140), (149, 25170), (153, 25221), (156, 25254), (157, 25287), (158, 25299), (166, 25380), (172, 25413), (181, 25509), (182, 25524), (183, 25545), (184, 25596), (186, 25605), (191, 25683), (198, 25731), (199, 25740), (203, 25800), (208, 25839), (209, 25845), (212, 25854), (220, 25881), (224, 25908), (226, 25929), (229, 25965), (236, 26031), (237, 26052), (238, 26067), (243, 26154), (244, 26157), (258, 26235), (269, 26295), (279, 26367), (301, 26469), (307, 26502), (313, 26565), (320, 26619), (326, 26682), (341, 26793), (347, 26820), (348, 26826), (358, 26928), (360, 26940), (365, 26994), (368, 27021), (372, 27048), (376, 27087), (379, 27111), (382, 27126), (384, 27153), (389, 27225), (390, 27234), (394, 27294), (397, 27339), (412, 27528), (416, 27657), (417, 27663), (418, 27681), (425, 27777), (429, 27882), (435, 27981), (447, 28125), (450, 28200), (453, 28212), (458, 28296), (493, 28635), (499, 28674), (500, 28680), (503, 28686), (506, 28713), (511, 28749), (512, 28761),

Gene: Brandonk123\_34 Start: 25024, Stop: 29847, Start Num: 11

Candidate Starts for Brandonk123\_34:

(Start: 11 @25024 has 58 MA's), (26, 25198), (28, 25222), (57, 25360), (67, 25399), (69, 25405), (72, 25417), (76, 25435), (79, 25447), (80, 25474), (84, 25492), (87, 25504), (103, 25603), (115, 25723), (116, 25744), (119, 25804), (121, 25837), (124, 25879), (127, 25915), (131, 25951), (133, 25966), (134, 25969), (141, 26080), (142, 26116), (144, 26167), (147, 26209), (149, 26239), (153, 26290), (156, 26323), (157, 26356), (158, 26368), (166, 26449), (169, 26470), (172, 26482), (181, 26578), (182, 26593), (183, 26614), (184, 26665), (186, 26674), (191, 26752), (198, 26800), (199, 26809), (203, 26869), (209, 26914), (212, 26923), (220, 26950), (224, 26977), (226, 26998), (229, 27034), (236, 27100), (238, 27136), (243, 27223), (244, 27226), (258, 27304), (269, 27364), (279, 27436), (291, 27499), (299, 27532), (301, 27538), (307, 27571), (313, 27634), (320, 27688), (326, 27751), (341, 27862), (347, 27889), (348, 27895), (358, 27997), (360, 28009), (365, 28063), (368, 28090), (372, 28117), (376, 28156), (384, 28222), (389, 28294), (390, 28303), (394, 28363), (397, 28408), (416, 28723), (417, 28729), (418, 28747), (425, 28843), (429, 28948), (435, 29047), (447, 29191), (450, 29266), (453, 29278), (458, 29362), (493, 29701), (499, 29740), (500, 29746), (503, 29752), (506, 29779), (511, 29815), (512, 29827),

Gene: ChadMasterC\_33 Start: 25682, Stop: 30712, Start Num: 11

Candidate Starts for ChadMasterC\_33:

(Start: 11 @25682 has 58 MA's), (26, 25856), (28, 25880), (30, 25889), (31, 25922), (33, 25940), (37, 25955), (48, 26054), (53, 26129), (54, 26135), (55, 26138), (62, 26195), (63, 26213), (65, 26222), (67, 26237), (93, 26402), (97, 26420), (98, 26432), (103, 26471), (116, 26612), (119, 26672), (121, 26705), (124, 26747), (131, 26819), (133, 26834), (134, 26837), (141, 26948), (142, 26984), (144, 27035), (147, 27077), (149, 27107), (153, 27158), (156, 27191), (157, 27224), (158, 27236), (166, 27317), (169, 27338), (172, 27350), (181, 27446), (182, 27461), (183, 27482), (184, 27533), (186, 27542), (191, 27620), (198, 27668), (199, 27677), (203, 27737), (209, 27782), (212, 27791), (220, 27818),

(224, 27845), (226, 27866), (229, 27902), (236, 27968), (238, 28004), (243, 28091), (244, 28094), (248, 28121), (258, 28172), (261, 28178), (279, 28304), (297, 28379), (301, 28406), (307, 28439), (313, 28502), (320, 28556), (326, 28619), (341, 28730), (347, 28757), (348, 28763), (358, 28865), (360, 28877), (365, 28931), (368, 28958), (372, 28985), (376, 29024), (379, 29048), (382, 29063), (384, 29090), (389, 29162), (390, 29171), (394, 29231), (397, 29276), (416, 29594), (417, 29600), (418, 29618), (425, 29714), (429, 29819), (435, 29918), (447, 30062), (450, 30131), (453, 30143), (458, 30227), (493, 30566), (499, 30605), (500, 30611), (503, 30617), (506, 30644), (511, 30680), (512, 30692),

Gene: Charming\_33 Start: 24533, Stop: 29347, Start Num: 11

Candidate Starts for Charming\_33:

(Start: 11 @24533 has 58 MA's), (26, 24707), (28, 24731), (57, 24869), (66, 24902), (69, 24914), (72, 24926), (76, 24944), (79, 24956), (84, 25001), (87, 25013), (103, 25112), (115, 25232), (116, 25253), (119, 25313), (121, 25346), (124, 25388), (127, 25424), (131, 25460), (133, 25475), (134, 25478), (141, 25589), (142, 25625), (144, 25676), (147, 25718), (149, 25748), (153, 25799), (156, 25832), (157, 25865), (158, 25877), (166, 25958), (169, 25979), (172, 25991), (181, 26087), (182, 26102), (183, 26123), (184, 26174), (186, 26183), (198, 26309), (199, 26318), (203, 26378), (209, 26423), (212, 26432), (220, 26459), (224, 26486), (226, 26507), (229, 26543), (236, 26609), (238, 26645), (243, 26732), (244, 26735), (258, 26813), (261, 26819), (279, 26945), (301, 27047), (307, 27080), (313, 27143), (320, 27197), (326, 27260), (341, 27371), (347, 27398), (348, 27404), (358, 27506), (365, 27572), (366, 27587), (368, 27599), (372, 27626), (376, 27665), (384, 27731), (390, 27812), (394, 27872), (397, 27917), (416, 28232), (417, 28238), (418, 28256), (425, 28352), (435, 28556), (447, 28700), (450, 28775), (458, 28862), (476, 29057), (493, 29201), (499, 29240), (500, 29246), (503, 29252), (506, 29279), (511, 29315), (512, 29327),

Gene: Chickadee\_30 Start: 21428, Stop: 26545, Start Num: 11

Candidate Starts for Chickadee\_30:

(Start: 11 @21428 has 58 MA's), (21, 21548), (26, 21602), (29, 21635), (35, 21692), (37, 21701), (38, 21704), (44, 21773), (45, 21785), (48, 21800), (50, 21836), (53, 21875), (54, 21881), (56, 21887), (61, 21920), (66, 21962), (68, 21971), (70, 21980), (71, 21986), (83, 22064), (86, 22082), (92, 22121), (101, 22178), (103, 22193), (113, 22286), (124, 22457), (131, 22529), (134, 22547), (138, 22625), (141, 22658), (142, 22694), (143, 22733), (144, 22745), (149, 22817), (153, 22868), (155, 22889), (156, 22901), (160, 22952), (162, 22982), (169, 23048), (180, 23150), (183, 23192), (185, 23246), (187, 23276), (188, 23279), (191, 23330), (194, 23357), (198, 23378), (202, 23444), (206, 23480), (208, 23486), (219, 23525), (222, 23537), (223, 23549), (224, 23555), (226, 23576), (234, 23660), (235, 23675), (237, 23699), (247, 23834), (250, 23846), (259, 23909), (260, 23912), (275, 24017), (277, 24035), (286, 24065), (298, 24116), (307, 24173), (314, 24248), (315, 24257), (316, 24266), (317, 24272), (324, 24323), (328, 24356), (329, 24368), (332, 24389), (333, 24401), (336, 24434), (339, 24455), (356, 24587), (362, 24641), (385, 24848), (393, 24962), (395, 24974), (404, 25100), (407, 25118), (410, 25196), (419, 25385), (421, 25415), (426, 25586), (431, 25613), (441, 25820), (442, 25823), (444, 25841), (461, 26090), (465, 26108), (466, 26120), (477, 26237), (494, 26393), (495, 26396), (502, 26438), (505, 26456), (506, 26471), (510, 26510),

Gene: ClamChowder\_31 Start: 20106, Stop: 25637, Start Num: 1

Candidate Starts for ClamChowder\_31:

(Start: 1 @20106 has 29 MA's), (3, 20193), (4, 20280), (6, 20313), (7, 20337), (Start: 12 @20460 has 7 MA's), (13, 20481), (14, 20487), (15, 20511), (19, 20541), (25, 20580), (32, 20664), (40, 20700), (43, 20724), (48, 20763), (100, 21153), (116, 21321), (119, 21381), (124, 21453), (125, 21465), (128, 21501), (130, 21525), (138, 21624), (139, 21627), (141, 21657), (143, 21732), (144, 21744), (147, 21786), (149, 21816), (153, 21867), (165, 22008), (166, 22026), (167, 22038), (169, 22047), (180, 22149), (182, 22170), (183, 22191), (184, 22242), (185, 22245), (186, 22251), (191, 22329), (195, 22359), (198, 22377), (203, 22446), (206, 22479), (208, 22485), (210, 22494), (213, 22500), (224, 22554), (227, 22599), (230, 22626), (231, 22635), (233, 22656), (238, 22713), (240, 22749), (248,

22830), (250, 22833), (256, 22902), (267, 22974), (276, 23070), (284, 23136), (285, 23139), (289, 23163), (293, 23190), (294, 23193), (295, 23196), (296, 23202), (304, 23271), (306, 23280), (310, 23325), (311, 23334), (322, 23412), (327, 23466), (334, 23520), (340, 23577), (350, 23619), (354, 23655), (358, 23718), (364, 23769), (377, 23880), (383, 23919), (387, 24000), (400, 24174), (401, 24177), (404, 24210), (414, 24417), (416, 24426), (417, 24432), (433, 24744), (446, 24951), (451, 25089), (463, 25239), (473, 25350), (480, 25395), (481, 25404), (482, 25410), (487, 25446), (496, 25539), (498, 25551), (505, 25581), (507, 25614), (509, 25626),

Gene: Clown\_33 Start: 21973, Stop: 27672, Start Num: 1

Candidate Starts for Clown\_33:

(Start: 1 @21973 has 29 MA's), (2, 22048), (4, 22147), (5, 22156), (6, 22180), (8, 22249), (9, 22348), (10, 22351), (27, 22606), (34, 22696), (40, 22750), (47, 22807), (52, 22873), (56, 22894), (60, 22915), (82, 23086), (90, 23122), (91, 23128), (99, 23194), (100, 23203), (102, 23224), (109, 23308), (119, 23434), (124, 23506), (125, 23518), (128, 23554), (138, 23677), (139, 23680), (141, 23710), (143, 23785), (144, 23797), (146, 23830), (147, 23839), (150, 23893), (156, 23953), (158, 24001), (163, 24034), (166, 24079), (167, 24091), (169, 24100), (183, 24244), (184, 24295), (185, 24298), (188, 24331), (190, 24373), (192, 24388), (195, 24412), (198, 24430), (199, 24439), (203, 24499), (208, 24538), (209, 24544), (211, 24550), (214, 24556), (215, 24559), (219, 24577), (222, 24589), (224, 24607), (230, 24679), (234, 24712), (235, 24727), (238, 24766), (242, 24829), (250, 24886), (275, 25093), (285, 25192), (289, 25216), (293, 25243), (294, 25246), (295, 25249), (304, 25324), (306, 25333), (310, 25378), (311, 25387), (313, 25399), (322, 25465), (327, 25519), (334, 25573), (342, 25642), (350, 25672), (357, 25753), (358, 25771), (361, 25789), (364, 25822), (366, 25852), (390, 26062), (394, 26122), (397, 26167), (398, 26170), (402, 26233), (411, 26344), (412, 26362), (414, 26461), (415, 26464), (416, 26470), (417, 26476), (424, 26596), (436, 26869), (438, 26926), (439, 26950), (445, 26977), (474, 27400), (487, 27484), (492, 27547), (495, 27562), (498, 27589), (504, 27616), (505, 27619),

Gene: Danyall\_31 Start: 19906, Stop: 25437, Start Num: 1

Candidate Starts for Danyall\_31:

(Start: 1 @19906 has 29 MA's), (3, 19993), (4, 20080), (6, 20113), (7, 20137), (Start: 12 @20260 has 7 MA's), (13, 20281), (14, 20287), (15, 20311), (19, 20341), (25, 20380), (32, 20464), (40, 20500), (43, 20524), (48, 20563), (100, 20953), (116, 21121), (119, 21181), (124, 21253), (125, 21265), (128, 21301), (130, 21325), (138, 21424), (139, 21427), (141, 21457), (143, 21532), (144, 21544), (147, 21586), (149, 21616), (153, 21667), (165, 21808), (166, 21826), (167, 21838), (169, 21847), (180, 21949), (182, 21970), (183, 21991), (184, 22042), (185, 22045), (186, 22051), (191, 22129), (195, 22159), (198, 22177), (203, 22246), (206, 22279), (208, 22285), (210, 22294), (213, 22300), (224, 22354), (227, 22399), (230, 22426), (231, 22435), (233, 22456), (238, 22513), (240, 22549), (248, 22630), (250, 22633), (256, 22702), (267, 22774), (276, 22870), (284, 22936), (285, 22939), (289, 22963), (293, 22990), (294, 22993), (295, 22996), (296, 23002), (304, 23071), (306, 23080), (310, 23125), (311, 23134), (322, 23212), (327, 23266), (334, 23320), (340, 23377), (350, 23419), (354, 23455), (358, 23518), (364, 23569), (377, 23680), (383, 23719), (387, 23800), (400, 23974), (401, 23977), (404, 24010), (414, 24217), (416, 24226), (417, 24232), (433, 24544), (446, 24751), (451, 24889), (463, 25039), (473, 25150), (480, 25195), (481, 25204), (482, 25210), (487, 25246), (496, 25339), (498, 25351), (505, 25381), (507, 25414), (509, 25426),

Gene: Delrey21\_32 Start: 25053, Stop: 29963, Start Num: 11

Candidate Starts for Delrey21\_32:

(Start: 11 @25053 has 58 MA's), (21, 25173), (22, 25185), (25, 25206), (26, 25227), (28, 25251), (36, 25317), (37, 25326), (38, 25329), (49, 25431), (53, 25500), (55, 25509), (74, 25617), (78, 25638), (81, 25680), (83, 25686), (92, 25743), (94, 25752), (103, 25815), (111, 25914), (114, 25926), (118, 25968), (121, 26049), (123, 26073), (125, 26103), (129, 26160), (131, 26163), (132, 26169), (134, 26181), (137, 26253), (141, 26292), (142, 26328), (143, 26367), (144, 26379), (147, 26421), (149, 26451), (156, 26535), (157, 26568), (166, 26661), (169, 26682), (173, 26697), (180, 26784), (183, 26826),

(185, 26880), (186, 26886), (188, 26913), (197, 27000), (198, 27012), (199, 27021), (203, 27081), (204, 27093), (208, 27120), (220, 27162), (221, 27168), (223, 27183), (224, 27189), (227, 27234), (230, 27261), (231, 27270), (232, 27273), (242, 27411), (248, 27465), (250, 27468), (264, 27555), (288, 27657), (300, 27702), (301, 27705), (312, 27795), (349, 28071), (351, 28086), (352, 28089), (363, 28212), (365, 28236), (370, 28299), (381, 28356), (390, 28473), (392, 28515), (394, 28533), (402, 28644), (409, 28746), (415, 28878), (416, 28884), (417, 28890), (419, 28911), (422, 28953), (432, 29172), (433, 29199), (436, 29271), (437, 29310), (452, 29517), (456, 29583), (457, 29589), (464, 29655), (471, 29751), (475, 29790), (485, 29853), (486, 29856), (488, 29874), (489, 29889), (491, 29916), (492, 29928),

Gene: Derg\_30 Start: 23486, Stop: 28501, Start Num: 11

Candidate Starts for Derg\_30:

(Start: 11 @23486 has 58 MA's), (16, 23561), (21, 23606), (26, 23660), (28, 23684), (31, 23726), (33, 23744), (37, 23759), (44, 23831), (48, 23858), (53, 23933), (55, 23942), (62, 23999), (63, 24017), (64, 24023), (67, 24041), (73, 24068), (97, 24224), (103, 24275), (105, 24287), (108, 24335), (119, 24476), (121, 24509), (124, 24551), (131, 24623), (133, 24638), (134, 24641), (141, 24752), (142, 24788), (144, 24839), (147, 24881), (149, 24911), (153, 24962), (156, 24995), (157, 25028), (158, 25040), (166, 25121), (172, 25154), (173, 25157), (177, 25214), (181, 25250), (182, 25265), (183, 25286), (184, 25337), (198, 25472), (203, 25541), (208, 25580), (209, 25586), (212, 25595), (220, 25622), (224, 25649), (226, 25670), (229, 25706), (231, 25730), (232, 25733), (235, 25769), (238, 25808), (244, 25898), (250, 25928), (258, 25976), (261, 25982), (278, 26105), (279, 26108), (280, 26114), (291, 26171), (297, 26183), (301, 26210), (307, 26243), (308, 26249), (313, 26306), (320, 26360), (326, 26423), (341, 26534), (347, 26561), (348, 26567), (358, 26669), (365, 26735), (382, 26867), (384, 26894), (390, 26975), (394, 27035), (397, 27080), (414, 27386), (416, 27395), (419, 27422), (423, 27491), (435, 27719), (447, 27863), (450, 27932), (451, 27938), (453, 27944), (458, 28019), (460, 28049), (473, 28187), (482, 28247), (487, 28283), (490, 28328), (493, 28355), (499, 28394), (500, 28400), (503, 28406), (506, 28433), (511, 28469), (512, 28481),

Gene: Dextrert\_31 Start: 21862, Stop: 26988, Start Num: 11

Candidate Starts for Dextrert\_31:

(Start: 11 @21862 has 58 MA's), (26, 22036), (29, 22069), (35, 22126), (37, 22135), (38, 22138), (44, 22207), (45, 22219), (48, 22234), (50, 22270), (53, 22309), (54, 22315), (56, 22321), (61, 22354), (66, 22396), (68, 22405), (70, 22414), (71, 22420), (76, 22447), (83, 22498), (86, 22516), (101, 22612), (103, 22627), (107, 22672), (113, 22720), (124, 22891), (131, 22963), (134, 22981), (138, 23059), (141, 23092), (142, 23128), (143, 23167), (144, 23179), (149, 23251), (153, 23302), (155, 23323), (156, 23335), (160, 23386), (162, 23416), (169, 23482), (180, 23584), (183, 23626), (185, 23680), (187, 23710), (188, 23713), (191, 23764), (194, 23791), (198, 23812), (202, 23878), (206, 23914), (208, 23920), (219, 23959), (220, 23962), (223, 23983), (224, 23989), (226, 24010), (230, 24061), (234, 24094), (235, 24109), (237, 24133), (259, 24343), (260, 24346), (275, 24451), (277, 24469), (286, 24499), (298, 24550), (307, 24607), (314, 24682), (315, 24691), (316, 24700), (317, 24706), (324, 24757), (328, 24790), (329, 24802), (332, 24823), (333, 24835), (336, 24868), (339, 24889), (356, 25021), (362, 25075), (385, 25282), (393, 25396), (395, 25408), (404, 25534), (407, 25552), (410, 25630), (419, 25819), (421, 25849), (431, 26047), (441, 26254), (442, 26257), (444, 26275), (461, 26524), (465, 26542), (466, 26554), (477, 26680), (494, 26836), (495, 26839), (502, 26881), (505, 26899), (506, 26914), (510, 26953),

Gene: DoctorFroggo\_32 Start: 25053, Stop: 29963, Start Num: 11

Candidate Starts for DoctorFroggo\_32:

(Start: 11 @25053 has 58 MA's), (21, 25173), (22, 25185), (25, 25206), (26, 25227), (28, 25251), (36, 25317), (37, 25326), (38, 25329), (49, 25431), (53, 25500), (55, 25509), (74, 25617), (78, 25638), (81, 25680), (83, 25686), (92, 25743), (94, 25752), (103, 25815), (111, 25914), (114, 25926), (118, 25968), (121, 26049), (123, 26073), (125, 26103), (129, 26160), (131, 26163), (132, 26169), (134, 26181), (137, 26253), (141, 26292), (142, 26328), (143, 26367), (144, 26379), (147, 26421), (149, 26451),

(156, 26535), (157, 26568), (166, 26661), (169, 26682), (173, 26697), (180, 26784), (183, 26826), (185, 26880), (186, 26886), (188, 26913), (197, 27000), (198, 27012), (199, 27021), (203, 27081), (204, 27093), (208, 27120), (220, 27162), (221, 27168), (223, 27183), (224, 27189), (227, 27234), (230, 27261), (231, 27270), (232, 27273), (242, 27411), (248, 27465), (250, 27468), (264, 27555), (288, 27657), (300, 27702), (301, 27705), (312, 27795), (349, 28071), (351, 28086), (352, 28089), (363, 28212), (365, 28236), (370, 28299), (381, 28356), (390, 28473), (392, 28515), (394, 28533), (402, 28644), (409, 28746), (415, 28878), (416, 28884), (417, 28890), (419, 28911), (422, 28953), (432, 29172), (433, 29199), (436, 29271), (437, 29310), (452, 29517), (456, 29583), (457, 29589), (464, 29655), (471, 29751), (475, 29790), (485, 29853), (486, 29856), (488, 29874), (489, 29889), (491, 29916), (492, 29928),

Gene: EMoore\_29 Start: 23379, Stop: 28523, Start Num: 12

Candidate Starts for EMoore\_29:

(Start: 12 @23379 has 7 MA's), (21, 23499), (26, 23553), (28, 23577), (31, 23619), (37, 23652), (38, 23655), (48, 23751), (53, 23826), (54, 23832), (56, 23838), (61, 23871), (66, 23913), (71, 23937), (74, 23946), (79, 23976), (86, 24033), (92, 24072), (94, 24081), (95, 24084), (103, 24144), (104, 24147), (110, 24222), (111, 24231), (121, 24366), (122, 24375), (126, 24432), (132, 24486), (134, 24498), (138, 24576), (141, 24609), (142, 24645), (143, 24684), (144, 24696), (148, 24744), (149, 24768), (156, 24852), (159, 24900), (160, 24903), (167, 24990), (170, 25002), (178, 25089), (183, 25143), (185, 25197), (186, 25203), (188, 25230), (191, 25281), (198, 25329), (199, 25338), (203, 25398), (204, 25410), (206, 25431), (208, 25437), (209, 25443), (210, 25446), (211, 25449), (219, 25476), (224, 25506), (227, 25551), (230, 25578), (232, 25590), (234, 25611), (235, 25626), (238, 25665), (246, 25785), (249, 25839), (255, 25914), (257, 25926), (262, 25989), (266, 26034), (269, 26055), (274, 26100), (277, 26142), (278, 26145), (282, 26169), (283, 26187), (284, 26199), (287, 26220), (290, 26232), (292, 26250), (297, 26277), (298, 26280), (309, 26364), (316, 26430), (322, 26463), (325, 26505), (327, 26517), (338, 26616), (343, 26646), (349, 26673), (354, 26709), (368, 26865), (369, 26868), (374, 26922), (381, 26946), (389, 27054), (390, 27063), (394, 27123), (396, 27153), (397, 27168), (402, 27234), (408, 27270), (415, 27465), (416, 27471), (419, 27498), (421, 27534), (436, 27861), (437, 27900), (454, 28137), (464, 28215), (471, 28311), (488, 28434), (491, 28476), (492, 28488),

Gene: EdmundFerry\_29 Start: 21457, Stop: 26574, Start Num: 11

Candidate Starts for EdmundFerry\_29:

(Start: 11 @21457 has 58 MA's), (21, 21577), (26, 21631), (29, 21664), (35, 21721), (37, 21730), (38, 21733), (44, 21802), (45, 21814), (48, 21829), (50, 21865), (53, 21904), (54, 21910), (56, 21916), (61, 21949), (66, 21991), (68, 22000), (70, 22009), (71, 22015), (83, 22093), (86, 22111), (92, 22150), (101, 22207), (103, 22222), (113, 22315), (124, 22486), (131, 22558), (134, 22576), (138, 22654), (141, 22687), (142, 22723), (143, 22762), (144, 22774), (149, 22846), (151, 22876), (153, 22897), (155, 22918), (156, 22930), (160, 22981), (162, 23011), (169, 23077), (180, 23179), (183, 23221), (185, 23275), (187, 23305), (188, 23308), (191, 23359), (194, 23386), (198, 23407), (202, 23473), (206, 23509), (208, 23515), (219, 23554), (222, 23566), (223, 23578), (224, 23584), (226, 23605), (234, 23689), (235, 23704), (237, 23728), (247, 23863), (259, 23938), (260, 23941), (275, 24046), (277, 24064), (286, 24094), (298, 24145), (307, 24202), (314, 24277), (315, 24286), (316, 24295), (317, 24301), (324, 24352), (328, 24385), (329, 24397), (332, 24418), (333, 24430), (336, 24463), (339, 24484), (356, 24616), (362, 24670), (385, 24877), (393, 24991), (395, 25003), (404, 25129), (407, 25147), (410, 25225), (419, 25414), (421, 25444), (426, 25615), (431, 25642), (441, 25849), (442, 25852), (444, 25870), (461, 26119), (465, 26137), (466, 26149), (477, 26266), (494, 26422), (495, 26425), (502, 26467), (505, 26485), (506, 26500), (510, 26539),

Gene: Evamon\_29 Start: 19392, Stop: 24923, Start Num: 1

Candidate Starts for Evamon\_29:

(Start: 1 @19392 has 29 MA's), (3, 19479), (4, 19566), (6, 19599), (7, 19623), (Start: 12 @19746 has 7 MA's), (13, 19767), (14, 19773), (15, 19797), (19, 19827), (25, 19866), (32, 19950), (40, 19986), (43,



20010), (48, 20049), (100, 20439), (116, 20607), (119, 20667), (124, 20739), (125, 20751), (128, 20787), (130, 20811), (138, 20910), (139, 20913), (141, 20943), (143, 21018), (144, 21030), (147, 21072), (149, 21102), (153, 21153), (165, 21294), (166, 21312), (167, 21324), (169, 21333), (180, 21435), (182, 21456), (183, 21477), (184, 21528), (185, 21531), (186, 21537), (191, 21615), (195, 21645), (198, 21663), (203, 21732), (206, 21765), (208, 21771), (210, 21780), (213, 21786), (224, 21840), (227, 21885), (230, 21912), (231, 21921), (233, 21942), (238, 21999), (240, 22035), (248, 22116), (250, 22119), (256, 22188), (267, 22260), (276, 22356), (284, 22422), (285, 22425), (289, 22449), (293, 22476), (294, 22479), (295, 22482), (296, 22488), (304, 22557), (306, 22566), (310, 22611), (311, 22620), (322, 22698), (327, 22752), (334, 22806), (340, 22863), (350, 22905), (354, 22941), (358, 23004), (364, 23055), (377, 23166), (383, 23205), (387, 23286), (400, 23460), (401, 23463), (404, 23496), (414, 23703), (416, 23712), (417, 23718), (433, 24030), (446, 24237), (451, 24375), (463, 24525), (473, 24636), (480, 24681), (481, 24690), (482, 24696), (487, 24732), (496, 24825), (498, 24837), (505, 24867), (507, 24900), (509, 24912),

Gene: Fireball\_30 Start: 19524, Stop: 25058, Start Num: 1

Candidate Starts for Fireball\_30:

(Start: 1 @19524 has 29 MA's), (3, 19611), (4, 19698), (6, 19731), (7, 19755), (Start: 12 @19878 has 7 MA's), (13, 19899), (14, 19905), (15, 19929), (18, 19938), (19, 19959), (25, 19998), (32, 20082), (40, 20118), (43, 20142), (48, 20181), (100, 20571), (116, 20739), (119, 20799), (124, 20871), (125, 20883), (128, 20919), (130, 20943), (138, 21042), (139, 21045), (141, 21075), (143, 21150), (144, 21162), (147, 21204), (149, 21234), (153, 21285), (165, 21426), (166, 21444), (167, 21456), (169, 21465), (180, 21567), (182, 21588), (183, 21609), (184, 21660), (185, 21663), (191, 21747), (195, 21777), (198, 21795), (203, 21864), (206, 21897), (208, 21903), (210, 21912), (213, 21918), (224, 21972), (230, 22044), (231, 22053), (233, 22074), (238, 22131), (240, 22167), (248, 22248), (250, 22251), (256, 22320), (267, 22392), (276, 22488), (284, 22554), (285, 22557), (289, 22581), (293, 22608), (294, 22611), (295, 22614), (296, 22620), (304, 22689), (306, 22698), (310, 22743), (311, 22752), (322, 22830), (335, 22959), (337, 22974), (343, 23016), (350, 23058), (353, 23076), (354, 23094), (358, 23157), (364, 23208), (377, 23319), (383, 23358), (387, 23439), (400, 23613), (401, 23616), (404, 23649), (406, 23664), (414, 23856), (416, 23865), (417, 23871), (424, 23985), (428, 24105), (437, 24285), (451, 24510), (463, 24660), (480, 24816), (481, 24825), (487, 24867), (497, 24966), (498, 24972), (505, 25002), (507, 25035), (509, 25047),

Gene: Fitzgerald\_31 Start: 25116, Stop: 29930, Start Num: 11

Candidate Starts for Fitzgerald\_31:

(Start: 11 @25116 has 58 MA's), (26, 25290), (28, 25314), (57, 25452), (67, 25491), (69, 25497), (72, 25509), (76, 25527), (79, 25539), (80, 25566), (84, 25584), (87, 25596), (89, 25602), (103, 25695), (115, 25815), (116, 25836), (119, 25896), (121, 25929), (124, 25971), (127, 26007), (131, 26043), (133, 26058), (134, 26061), (141, 26172), (142, 26208), (144, 26259), (147, 26301), (149, 26331), (153, 26382), (156, 26415), (157, 26448), (158, 26460), (166, 26541), (169, 26562), (172, 26574), (181, 26670), (182, 26685), (183, 26706), (184, 26757), (186, 26766), (198, 26892), (199, 26901), (203, 26961), (209, 27006), (212, 27015), (220, 27042), (224, 27069), (226, 27090), (229, 27126), (236, 27192), (238, 27228), (243, 27315), (244, 27318), (248, 27345), (258, 27396), (261, 27402), (279, 27528), (301, 27630), (307, 27663), (313, 27726), (320, 27780), (326, 27843), (341, 27954), (347, 27981), (348, 27987), (358, 28089), (360, 28101), (365, 28155), (368, 28182), (372, 28209), (376, 28248), (379, 28272), (382, 28287), (384, 28314), (389, 28386), (390, 28395), (394, 28455), (397, 28500), (412, 28689), (416, 28815), (417, 28821), (418, 28839), (425, 28935), (429, 29040), (435, 29139), (447, 29283), (450, 29358), (458, 29445), (493, 29784), (499, 29823), (500, 29829), (503, 29835), (506, 29862), (511, 29898), (512, 29910),

Gene: Flatwoods\_33 Start: 23847, Stop: 28862, Start Num: 11

Candidate Starts for Flatwoods\_33:

(Start: 11 @23847 has 58 MA's), (16, 23922), (21, 23967), (26, 24021), (28, 24045), (31, 24087), (33, 24105), (37, 24120), (44, 24192), (48, 24219), (53, 24294), (55, 24303), (61, 24339), (62, 24360), (63,

24378), (64, 24384), (67, 24402), (73, 24429), (103, 24636), (105, 24648), (108, 24696), (119, 24837), (121, 24870), (124, 24912), (131, 24984), (133, 24999), (134, 25002), (141, 25113), (142, 25149), (144, 25200), (147, 25242), (149, 25272), (153, 25323), (156, 25356), (157, 25389), (158, 25401), (166, 25482), (172, 25515), (173, 25518), (177, 25575), (181, 25611), (182, 25626), (183, 25647), (184, 25698), (198, 25833), (203, 25902), (208, 25941), (209, 25947), (212, 25956), (220, 25983), (224, 26010), (226, 26031), (229, 26067), (231, 26091), (232, 26094), (235, 26130), (238, 26169), (244, 26259), (250, 26289), (258, 26337), (261, 26343), (278, 26466), (279, 26469), (280, 26475), (291, 26532), (297, 26544), (301, 26571), (307, 26604), (308, 26610), (313, 26667), (320, 26721), (326, 26784), (341, 26895), (347, 26922), (348, 26928), (358, 27030), (365, 27096), (382, 27228), (384, 27255), (390, 27336), (394, 27396), (397, 27441), (414, 27747), (416, 27756), (419, 27783), (423, 27852), (429, 27981), (435, 28080), (447, 28224), (450, 28293), (451, 28299), (453, 28305), (458, 28380), (460, 28410), (473, 28548), (482, 28608), (487, 28644), (490, 28689), (493, 28716), (499, 28755), (500, 28761), (503, 28767), (506, 28794), (511, 28830), (512, 28842),

Gene: Fosterous\_31 Start: 24949, Stop: 29772, Start Num: 11

Candidate Starts for Fosterous\_31:

(Start: 11 @24949 has 58 MA's), (26, 25123), (28, 25147), (57, 25285), (66, 25318), (69, 25330), (72, 25342), (76, 25360), (79, 25372), (84, 25417), (103, 25528), (116, 25669), (119, 25729), (121, 25762), (124, 25804), (127, 25840), (131, 25876), (133, 25891), (134, 25894), (141, 26005), (142, 26041), (144, 26092), (147, 26134), (149, 26164), (153, 26215), (156, 26248), (157, 26281), (158, 26293), (166, 26374), (172, 26407), (181, 26503), (182, 26518), (183, 26539), (184, 26590), (186, 26599), (191, 26677), (198, 26725), (199, 26734), (203, 26794), (208, 26833), (209, 26839), (212, 26848), (220, 26875), (224, 26902), (226, 26923), (229, 26959), (236, 27025), (237, 27046), (238, 27061), (243, 27148), (244, 27151), (258, 27229), (269, 27289), (279, 27361), (301, 27463), (307, 27496), (313, 27559), (320, 27613), (326, 27676), (341, 27787), (347, 27814), (348, 27820), (358, 27922), (360, 27934), (365, 27988), (368, 28015), (372, 28042), (376, 28081), (379, 28105), (382, 28120), (384, 28147), (389, 28219), (390, 28228), (394, 28288), (397, 28333), (416, 28648), (417, 28654), (418, 28672), (425, 28768), (429, 28873), (435, 28972), (447, 29116), (450, 29191), (453, 29203), (458, 29287), (493, 29626), (499, 29665), (500, 29671), (503, 29677), (506, 29704), (511, 29740), (512, 29752),

Gene: Fugax\_31 Start: 20106, Stop: 25637, Start Num: 1

Candidate Starts for Fugax\_31:

(Start: 1 @20106 has 29 MA's), (3, 20193), (4, 20280), (6, 20313), (7, 20337), (Start: 12 @20460 has 7 MA's), (13, 20481), (14, 20487), (15, 20511), (19, 20541), (25, 20580), (32, 20664), (40, 20700), (43, 20724), (48, 20763), (100, 21153), (116, 21321), (119, 21381), (124, 21453), (125, 21465), (128, 21501), (130, 21525), (138, 21624), (139, 21627), (141, 21657), (143, 21732), (144, 21744), (147, 21786), (149, 21816), (153, 21867), (165, 22008), (166, 22026), (167, 22038), (169, 22047), (180, 22149), (182, 22170), (183, 22191), (184, 22242), (185, 22245), (186, 22251), (191, 22329), (195, 22359), (198, 22377), (203, 22446), (206, 22479), (208, 22485), (210, 22494), (213, 22500), (224, 22554), (227, 22599), (230, 22626), (231, 22635), (233, 22656), (238, 22713), (240, 22749), (248, 22830), (250, 22833), (256, 22902), (267, 22974), (276, 23070), (284, 23136), (285, 23139), (289, 23163), (293, 23190), (294, 23193), (295, 23196), (296, 23202), (304, 23271), (306, 23280), (310, 23325), (311, 23334), (322, 23412), (327, 23466), (334, 23520), (340, 23577), (350, 23619), (354, 23655), (358, 23718), (364, 23769), (377, 23880), (383, 23919), (387, 24000), (400, 24174), (401, 24177), (404, 24210), (414, 24417), (416, 24426), (417, 24432), (433, 24744), (446, 24951), (451, 25089), (463, 25239), (473, 25350), (480, 25395), (481, 25404), (482, 25410), (487, 25446), (496, 25539), (498, 25551), (505, 25581), (507, 25614), (509, 25626),

Gene: GTE6\_30 Start: 21946, Stop: 27066, Start Num: 11

Candidate Starts for GTE6\_30:

(Start: 11 @21946 has 58 MA's), (21, 22066), (26, 22120), (29, 22153), (35, 22210), (37, 22219), (38, 22222), (44, 22291), (45, 22303), (48, 22318), (50, 22354), (53, 22393), (54, 22399), (56, 22405), (61,

22438), (66, 22480), (68, 22489), (70, 22498), (71, 22504), (83, 22582), (86, 22600), (92, 22639), (101, 22696), (103, 22711), (124, 22975), (131, 23047), (134, 23065), (138, 23143), (141, 23176), (142, 23212), (143, 23251), (144, 23263), (149, 23335), (150, 23359), (151, 23365), (153, 23386), (155, 23407), (156, 23419), (160, 23470), (162, 23500), (169, 23566), (180, 23668), (183, 23710), (185, 23764), (187, 23794), (188, 23797), (191, 23848), (194, 23875), (198, 23896), (202, 23962), (206, 23998), (208, 24004), (218, 24034), (219, 24043), (222, 24055), (223, 24067), (224, 24073), (226, 24094), (230, 24145), (234, 24178), (235, 24193), (237, 24217), (247, 24352), (259, 24427), (260, 24430), (275, 24535), (277, 24553), (286, 24583), (298, 24634), (307, 24691), (314, 24766), (315, 24775), (316, 24784), (317, 24790), (323, 24832), (324, 24841), (328, 24874), (329, 24886), (332, 24907), (333, 24919), (336, 24952), (339, 24973), (356, 25105), (362, 25159), (385, 25366), (393, 25480), (395, 25492), (399, 25570), (404, 25618), (407, 25636), (410, 25714), (419, 25903), (421, 25933), (426, 26104), (431, 26131), (441, 26338), (442, 26341), (444, 26359), (461, 26608), (465, 26626), (466, 26638), (477, 26758), (494, 26914), (495, 26917), (502, 26959), (505, 26977), (506, 26992), (510, 27031),

Gene: Gaea\_32 Start: 23498, Stop: 28510, Start Num: 11

Candidate Starts for Gaea\_32:

(Start: 11 @23498 has 58 MA's), (16, 23573), (21, 23618), (26, 23672), (28, 23696), (31, 23738), (33, 23756), (37, 23771), (44, 23843), (48, 23870), (53, 23945), (55, 23954), (62, 24011), (63, 24029), (64, 24035), (103, 24287), (105, 24299), (108, 24347), (119, 24488), (121, 24521), (124, 24563), (131, 24635), (133, 24650), (134, 24653), (141, 24764), (142, 24800), (144, 24851), (147, 24893), (149, 24923), (153, 24974), (156, 25007), (157, 25040), (158, 25052), (166, 25133), (172, 25166), (173, 25169), (177, 25226), (181, 25262), (182, 25277), (183, 25298), (184, 25349), (198, 25484), (199, 25493), (206, 25586), (208, 25592), (209, 25598), (212, 25607), (219, 25631), (222, 25643), (224, 25661), (229, 25718), (238, 25820), (241, 25862), (244, 25910), (250, 25940), (258, 25988), (261, 25994), (279, 26120), (291, 26183), (297, 26195), (299, 26216), (301, 26222), (307, 26255), (313, 26318), (320, 26372), (341, 26546), (347, 26573), (348, 26579), (358, 26681), (365, 26747), (382, 26879), (384, 26906), (390, 26987), (394, 27047), (397, 27092), (414, 27398), (416, 27407), (419, 27434), (435, 27728), (447, 27872), (450, 27941), (451, 27947), (453, 27953), (458, 28028), (460, 28058), (473, 28196), (482, 28256), (487, 28292), (490, 28337), (493, 28364), (499, 28403), (500, 28409), (503, 28415), (506, 28442), (511, 28478), (512, 28490),

Gene: Galadriel\_33 Start: 25438, Stop: 30261, Start Num: 11

Candidate Starts for Galadriel\_33:

(Start: 11 @25438 has 58 MA's), (26, 25612), (28, 25636), (57, 25774), (69, 25819), (72, 25831), (76, 25849), (79, 25861), (80, 25888), (84, 25906), (87, 25918), (103, 26017), (115, 26137), (116, 26158), (119, 26218), (121, 26251), (124, 26293), (127, 26329), (131, 26365), (133, 26380), (134, 26383), (141, 26494), (142, 26530), (144, 26581), (147, 26623), (149, 26653), (153, 26704), (156, 26737), (157, 26770), (158, 26782), (166, 26863), (168, 26881), (169, 26884), (172, 26896), (181, 26992), (182, 27007), (183, 27028), (184, 27079), (186, 27088), (191, 27166), (198, 27214), (199, 27223), (203, 27283), (209, 27328), (212, 27337), (220, 27364), (224, 27391), (226, 27412), (229, 27448), (236, 27514), (238, 27550), (243, 27637), (244, 27640), (245, 27649), (248, 27667), (258, 27718), (261, 27724), (279, 27850), (297, 27925), (301, 27952), (307, 27985), (313, 28048), (320, 28102), (326, 28165), (341, 28276), (347, 28303), (348, 28309), (358, 28411), (360, 28423), (365, 28477), (368, 28504), (372, 28531), (376, 28570), (379, 28594), (384, 28636), (389, 28708), (390, 28717), (394, 28777), (397, 28822), (416, 29137), (417, 29143), (418, 29161), (425, 29257), (429, 29362), (435, 29461), (447, 29605), (450, 29680), (453, 29692), (458, 29776), (493, 30115), (499, 30154), (500, 30160), (503, 30166), (506, 30193), (511, 30229), (512, 30241),

Gene: Geodirt\_30 Start: 24421, Stop: 29247, Start Num: 11

Candidate Starts for Geodirt\_30:

(Start: 11 @24421 has 58 MA's), (26, 24595), (28, 24619), (57, 24757), (67, 24796), (69, 24802), (72, 24814), (76, 24832), (79, 24844), (80, 24871), (84, 24889), (103, 25000), (115, 25120), (116, 25141),

(119, 25201), (121, 25234), (124, 25276), (127, 25312), (131, 25348), (133, 25363), (134, 25366), (141, 25477), (142, 25513), (144, 25564), (147, 25606), (149, 25636), (153, 25687), (156, 25720), (157, 25753), (158, 25765), (166, 25846), (169, 25867), (172, 25879), (181, 25975), (182, 25990), (183, 26011), (184, 26062), (186, 26071), (191, 26149), (198, 26197), (199, 26206), (203, 26266), (209, 26311), (212, 26320), (220, 26347), (224, 26374), (226, 26395), (229, 26431), (236, 26497), (238, 26533), (243, 26620), (244, 26623), (258, 26701), (269, 26761), (279, 26833), (291, 26896), (299, 26929), (301, 26935), (303, 26944), (307, 26968), (313, 27031), (320, 27085), (326, 27148), (341, 27259), (347, 27286), (348, 27292), (358, 27394), (360, 27406), (365, 27460), (368, 27487), (372, 27514), (376, 27553), (379, 27577), (382, 27592), (384, 27619), (389, 27691), (390, 27700), (394, 27760), (397, 27805), (416, 28123), (417, 28129), (418, 28147), (425, 28243), (435, 28447), (447, 28591), (450, 28666), (453, 28678), (458, 28762), (493, 29101), (499, 29140), (500, 29146), (503, 29152), (506, 29179), (511, 29215), (512, 29227),

Gene: Gezellig\_30 Start: 19524, Stop: 25055, Start Num: 1

Candidate Starts for Gezellig\_30:

(Start: 1 @19524 has 29 MA's), (3, 19611), (4, 19698), (6, 19731), (7, 19755), (Start: 12 @19878 has 7 MA's), (13, 19899), (14, 19905), (15, 19929), (19, 19959), (25, 19998), (32, 20082), (40, 20118), (43, 20142), (48, 20181), (100, 20571), (116, 20739), (119, 20799), (124, 20871), (125, 20883), (128, 20919), (130, 20943), (138, 21042), (139, 21045), (141, 21075), (143, 21150), (144, 21162), (147, 21204), (149, 21234), (153, 21285), (165, 21426), (166, 21444), (167, 21456), (169, 21465), (180, 21567), (182, 21588), (183, 21609), (184, 21660), (185, 21663), (186, 21669), (191, 21747), (195, 21777), (198, 21795), (203, 21864), (206, 21897), (208, 21903), (210, 21912), (213, 21918), (224, 21972), (227, 22017), (230, 22044), (231, 22053), (233, 22074), (238, 22131), (240, 22167), (248, 22248), (250, 22251), (256, 22320), (267, 22392), (276, 22488), (284, 22554), (285, 22557), (289, 22581), (293, 22608), (294, 22611), (295, 22614), (296, 22620), (304, 22689), (306, 22698), (310, 22743), (311, 22752), (322, 22830), (327, 22884), (334, 22938), (340, 22995), (350, 23037), (354, 23073), (358, 23136), (364, 23187), (377, 23298), (383, 23337), (387, 23418), (400, 23592), (401, 23595), (404, 23628), (414, 23835), (416, 23844), (417, 23850), (433, 24162), (446, 24369), (451, 24507), (463, 24657), (473, 24768), (480, 24813), (481, 24822), (482, 24828), (487, 24864), (496, 24957), (498, 24969), (505, 24999), (507, 25032), (509, 25044),

Gene: Gustavo\_32 Start: 23650, Stop: 28665, Start Num: 11

Candidate Starts for Gustavo\_32:

(Start: 11 @23650 has 58 MA's), (17, 23737), (21, 23770), (26, 23824), (28, 23848), (31, 23890), (33, 23908), (37, 23923), (44, 23995), (48, 24022), (53, 24097), (55, 24106), (62, 24163), (63, 24181), (64, 24187), (67, 24205), (73, 24232), (103, 24439), (105, 24451), (108, 24499), (119, 24640), (121, 24673), (124, 24715), (131, 24787), (133, 24802), (134, 24805), (141, 24916), (142, 24952), (144, 25003), (147, 25045), (149, 25075), (151, 25105), (156, 25159), (157, 25192), (166, 25285), (172, 25318), (173, 25321), (177, 25378), (181, 25414), (182, 25429), (183, 25450), (184, 25501), (198, 25636), (199, 25645), (206, 25738), (208, 25744), (209, 25750), (212, 25759), (217, 25771), (219, 25783), (222, 25795), (224, 25813), (229, 25870), (238, 25972), (244, 26062), (250, 26092), (258, 26140), (261, 26146), (278, 26269), (279, 26272), (291, 26335), (297, 26347), (299, 26368), (301, 26374), (307, 26407), (313, 26470), (320, 26524), (341, 26698), (347, 26725), (348, 26731), (358, 26833), (365, 26899), (382, 27031), (384, 27058), (390, 27139), (394, 27199), (397, 27244), (414, 27550), (416, 27559), (419, 27586), (423, 27655), (429, 27784), (435, 27883), (447, 28027), (450, 28096), (451, 28102), (453, 28108), (458, 28183), (460, 28213), (469, 28318), (473, 28351), (482, 28411), (487, 28447), (490, 28492), (493, 28519), (499, 28558), (500, 28564), (503, 28570), (506, 28597), (511, 28633), (512, 28645),

Gene: Halo3\_30 Start: 19817, Stop: 25348, Start Num: 1

Candidate Starts for Halo3\_30:

(Start: 1 @19817 has 29 MA's), (3, 19904), (4, 19991), (6, 20024), (7, 20048), (Start: 12 @20171 has 7 MA's), (13, 20192), (14, 20198), (15, 20222), (19, 20252), (25, 20291), (32, 20375), (40, 20411), (43,

20435), (48, 20474), (100, 20864), (116, 21032), (119, 21092), (124, 21164), (125, 21176), (128, 21212), (130, 21236), (138, 21335), (139, 21338), (141, 21368), (143, 21443), (144, 21455), (147, 21497), (149, 21527), (153, 21578), (165, 21719), (166, 21737), (167, 21749), (169, 21758), (180, 21860), (182, 21881), (183, 21902), (184, 21953), (185, 21956), (186, 21962), (191, 22040), (195, 22070), (198, 22088), (203, 22157), (206, 22190), (208, 22196), (210, 22205), (213, 22211), (224, 22265), (227, 22310), (230, 22337), (231, 22346), (233, 22367), (238, 22424), (240, 22460), (248, 22541), (250, 22544), (256, 22613), (267, 22685), (276, 22781), (284, 22847), (285, 22850), (289, 22874), (293, 22901), (294, 22904), (295, 22907), (296, 22913), (304, 22982), (306, 22991), (310, 23036), (311, 23045), (322, 23123), (327, 23177), (334, 23231), (340, 23288), (350, 23330), (354, 23366), (358, 23429), (364, 23480), (377, 23591), (383, 23630), (387, 23711), (400, 23885), (401, 23888), (404, 23921), (414, 24128), (416, 24137), (417, 24143), (433, 24455), (446, 24662), (451, 24800), (463, 24950), (473, 25061), (480, 25106), (481, 25115), (482, 25121), (487, 25157), (496, 25250), (498, 25262), (505, 25292), (507, 25325), (509, 25337),

Gene: Hans\_33 Start: 23262, Stop: 28151, Start Num: 12

Candidate Starts for Hans\_33:

(Start: 12 @23262 has 7 MA's), (21, 23382), (26, 23436), (28, 23460), (37, 23535), (38, 23538), (48, 23634), (53, 23709), (54, 23715), (56, 23721), (59, 23745), (61, 23754), (70, 23814), (71, 23820), (74, 23829), (79, 23859), (86, 23916), (92, 23955), (94, 23964), (103, 24027), (104, 24030), (110, 24105), (111, 24114), (121, 24249), (122, 24258), (124, 24291), (126, 24315), (134, 24381), (136, 24444), (142, 24528), (143, 24567), (144, 24579), (148, 24627), (149, 24651), (153, 24702), (156, 24735), (160, 24786), (163, 24816), (167, 24873), (170, 24885), (173, 24897), (178, 24972), (183, 25026), (185, 25080), (188, 25113), (197, 25200), (198, 25212), (199, 25221), (203, 25281), (204, 25293), (206, 25314), (208, 25320), (209, 25326), (210, 25329), (211, 25332), (219, 25359), (220, 25362), (222, 25371), (223, 25383), (224, 25389), (227, 25434), (231, 25470), (232, 25473), (234, 25494), (242, 25611), (250, 25668), (264, 25755), (273, 25821), (297, 25878), (298, 25881), (301, 25905), (312, 25995), (318, 26043), (334, 26172), (343, 26241), (345, 26250), (349, 26271), (352, 26289), (354, 26307), (368, 26463), (369, 26466), (382, 26571), (390, 26679), (394, 26739), (396, 26769), (402, 26850), (415, 27081), (416, 27087), (420, 27135), (421, 27150), (424, 27216), (430, 27348), (436, 27477), (437, 27516), (464, 27843), (471, 27939), (488, 28062), (491, 28104), (492, 28116),

Gene: Inspectinfecti\_32 Start: 23624, Stop: 28513, Start Num: 12

Candidate Starts for Inspectinfecti\_32:

(Start: 12 @23624 has 7 MA's), (21, 23744), (26, 23798), (28, 23822), (37, 23897), (38, 23900), (48, 23996), (53, 24071), (54, 24077), (56, 24083), (59, 24107), (61, 24116), (70, 24176), (71, 24182), (74, 24191), (79, 24221), (86, 24278), (92, 24317), (94, 24326), (103, 24389), (104, 24392), (110, 24467), (111, 24476), (121, 24611), (122, 24620), (124, 24653), (126, 24677), (134, 24743), (136, 24806), (142, 24890), (143, 24929), (144, 24941), (148, 24989), (149, 25013), (153, 25064), (156, 25097), (160, 25148), (163, 25178), (167, 25235), (170, 25247), (173, 25259), (178, 25334), (183, 25388), (185, 25442), (186, 25448), (188, 25475), (191, 25526), (197, 25562), (198, 25574), (199, 25583), (203, 25643), (204, 25655), (208, 25682), (209, 25688), (210, 25691), (211, 25694), (219, 25721), (220, 25724), (222, 25733), (223, 25745), (224, 25751), (227, 25796), (231, 25832), (232, 25835), (234, 25856), (242, 25973), (250, 26030), (264, 26117), (273, 26183), (297, 26240), (298, 26243), (301, 26267), (312, 26357), (318, 26405), (334, 26534), (343, 26603), (345, 26612), (349, 26633), (352, 26651), (354, 26669), (368, 26825), (369, 26828), (382, 26933), (390, 27041), (394, 27101), (396, 27131), (402, 27212), (415, 27443), (416, 27449), (420, 27497), (421, 27512), (424, 27578), (430, 27710), (436, 27839), (437, 27878), (464, 28205), (471, 28301), (488, 28424), (491, 28466), (492, 28478),

Gene: JKSyngboy\_30 Start: 24222, Stop: 29240, Start Num: 11

Candidate Starts for JKSyngboy\_30:

(Start: 11 @24222 has 58 MA's), (16, 24297), (26, 24396), (28, 24420), (31, 24462), (33, 24480), (37, 24495), (44, 24567), (48, 24594), (55, 24678), (63, 24753), (64, 24759), (67, 24777), (103, 25011),

(108, 25071), (119, 25212), (121, 25245), (124, 25287), (131, 25359), (133, 25374), (134, 25377), (141, 25488), (142, 25524), (144, 25575), (147, 25617), (149, 25647), (156, 25731), (157, 25764), (158, 25776), (166, 25857), (172, 25890), (173, 25893), (179, 25977), (181, 25986), (182, 26001), (183, 26022), (184, 26073), (191, 26160), (198, 26208), (199, 26217), (206, 26310), (208, 26316), (209, 26322), (212, 26331), (217, 26343), (219, 26355), (222, 26367), (224, 26385), (229, 26442), (238, 26544), (241, 26586), (244, 26634), (250, 26664), (258, 26712), (261, 26718), (272, 26793), (279, 26844), (280, 26850), (291, 26907), (297, 26919), (299, 26940), (301, 26946), (307, 26979), (308, 26985), (313, 27042), (320, 27096), (341, 27270), (347, 27297), (348, 27303), (358, 27405), (365, 27471), (376, 27564), (384, 27630), (389, 27702), (390, 27711), (394, 27771), (397, 27816), (414, 28119), (416, 28128), (417, 28134), (419, 28155), (425, 28254), (429, 28359), (435, 28458), (447, 28602), (450, 28671), (451, 28677), (453, 28683), (458, 28758), (460, 28788), (473, 28926), (482, 28986), (487, 29022), (490, 29067), (493, 29094), (499, 29133), (500, 29139), (503, 29145), (506, 29172), (511, 29208), (512, 29220),

Gene: Jabberwocky\_31 Start: 25577, Stop: 30391, Start Num: 11

Candidate Starts for Jabberwocky\_31:

(Start: 11 @25577 has 58 MA's), (26, 25751), (28, 25775), (57, 25913), (69, 25958), (72, 25970), (76, 25988), (79, 26000), (80, 26027), (84, 26045), (87, 26057), (103, 26156), (115, 26276), (116, 26297), (119, 26357), (121, 26390), (124, 26432), (127, 26468), (131, 26504), (133, 26519), (134, 26522), (141, 26633), (142, 26669), (144, 26720), (147, 26762), (149, 26792), (153, 26843), (156, 26876), (157, 26909), (158, 26921), (166, 27002), (169, 27023), (172, 27035), (181, 27131), (182, 27146), (183, 27167), (184, 27218), (186, 27227), (191, 27305), (198, 27353), (199, 27362), (203, 27422), (209, 27467), (212, 27476), (220, 27503), (224, 27530), (226, 27551), (229, 27587), (236, 27653), (238, 27689), (243, 27776), (244, 27779), (248, 27806), (258, 27857), (261, 27863), (279, 27989), (301, 28091), (307, 28124), (313, 28187), (320, 28241), (326, 28304), (341, 28415), (347, 28442), (348, 28448), (358, 28550), (365, 28616), (368, 28643), (372, 28670), (376, 28709), (379, 28733), (384, 28775), (389, 28847), (390, 28856), (394, 28916), (397, 28961), (416, 29276), (417, 29282), (418, 29300), (425, 29396), (429, 29501), (435, 29600), (447, 29744), (450, 29819), (453, 29831), (458, 29906), (493, 30245), (499, 30284), (500, 30290), (503, 30296), (506, 30323), (511, 30359), (512, 30371),

Gene: Jambalaya\_29 Start: 19171, Stop: 24702, Start Num: 1

Candidate Starts for Jambalaya\_29:

(Start: 1 @19171 has 29 MA's), (3, 19258), (4, 19345), (6, 19378), (7, 19402), (Start: 12 @19525 has 7 MA's), (13, 19546), (14, 19552), (15, 19576), (19, 19606), (25, 19645), (32, 19729), (40, 19765), (43, 19789), (48, 19828), (100, 20218), (116, 20386), (119, 20446), (124, 20518), (125, 20530), (128, 20566), (130, 20590), (138, 20689), (139, 20692), (141, 20722), (143, 20797), (144, 20809), (147, 20851), (149, 20881), (153, 20932), (165, 21073), (166, 21091), (167, 21103), (169, 21112), (180, 21214), (182, 21235), (183, 21256), (184, 21307), (185, 21310), (186, 21316), (191, 21394), (195, 21424), (198, 21442), (203, 21511), (206, 21544), (208, 21550), (210, 21559), (213, 21565), (224, 21619), (227, 21664), (230, 21691), (231, 21700), (233, 21721), (238, 21778), (240, 21814), (248, 21895), (250, 21898), (256, 21967), (267, 22039), (276, 22135), (284, 22201), (285, 22204), (289, 22228), (293, 22255), (294, 22258), (295, 22261), (296, 22267), (304, 22336), (306, 22345), (310, 22390), (311, 22399), (322, 22477), (327, 22531), (334, 22585), (340, 22642), (350, 22684), (354, 22720), (358, 22783), (364, 22834), (377, 22945), (383, 22984), (387, 23065), (400, 23239), (401, 23242), (404, 23275), (414, 23482), (416, 23491), (417, 23497), (433, 23809), (446, 24016), (451, 24154), (463, 24304), (473, 24415), (480, 24460), (481, 24469), (487, 24511), (496, 24604), (498, 24616), (505, 24646), (507, 24679), (509, 24691),

Gene: Kamashten\_32 Start: 25026, Stop: 29843, Start Num: 11

Candidate Starts for Kamashten\_32:

(Start: 11 @25026 has 58 MA's), (26, 25200), (28, 25224), (57, 25362), (69, 25407), (72, 25419), (76, 25437), (79, 25449), (80, 25476), (84, 25494), (87, 25506), (103, 25605), (115, 25725), (116, 25746),

(119, 25806), (121, 25839), (124, 25881), (131, 25953), (133, 25968), (134, 25971), (141, 26082), (142, 26118), (144, 26169), (147, 26211), (149, 26241), (153, 26292), (156, 26325), (157, 26358), (158, 26370), (166, 26451), (169, 26472), (172, 26484), (181, 26580), (182, 26595), (183, 26616), (184, 26667), (186, 26676), (191, 26754), (198, 26802), (199, 26811), (203, 26871), (209, 26916), (212, 26925), (220, 26952), (224, 26979), (226, 27000), (229, 27036), (236, 27102), (238, 27138), (243, 27225), (244, 27228), (245, 27237), (248, 27255), (258, 27306), (261, 27312), (279, 27438), (297, 27513), (301, 27540), (307, 27573), (313, 27636), (320, 27690), (326, 27753), (341, 27864), (347, 27891), (348, 27897), (358, 27999), (360, 28011), (365, 28065), (368, 28092), (372, 28119), (376, 28158), (379, 28182), (384, 28224), (389, 28296), (390, 28305), (394, 28365), (397, 28410), (416, 28728), (417, 28734), (418, 28752), (425, 28848), (429, 28953), (435, 29052), (447, 29196), (450, 29271), (453, 29283), (458, 29358), (476, 29553), (493, 29697), (499, 29736), (500, 29742), (503, 29748), (506, 29775), (511, 29811), (512, 29823),

Gene: Keitabear\_33 Start: 26382, Stop: 31208, Start Num: 11

Candidate Starts for Keitabear\_33:

(Start: 11 @26382 has 58 MA's), (26, 26556), (28, 26580), (57, 26718), (69, 26763), (72, 26775), (76, 26793), (79, 26805), (80, 26832), (84, 26850), (87, 26862), (103, 26961), (115, 27081), (116, 27102), (119, 27162), (121, 27195), (124, 27237), (127, 27273), (131, 27309), (133, 27324), (134, 27327), (141, 27438), (142, 27474), (144, 27525), (147, 27567), (149, 27597), (153, 27648), (156, 27681), (157, 27714), (158, 27726), (166, 27807), (169, 27828), (172, 27840), (181, 27936), (182, 27951), (183, 27972), (184, 28023), (186, 28032), (191, 28110), (198, 28158), (199, 28167), (203, 28227), (209, 28272), (212, 28281), (220, 28308), (224, 28335), (226, 28356), (229, 28392), (236, 28458), (238, 28494), (243, 28581), (244, 28584), (245, 28593), (248, 28611), (258, 28662), (261, 28668), (279, 28794), (301, 28896), (307, 28929), (313, 28992), (320, 29046), (326, 29109), (341, 29220), (347, 29247), (348, 29253), (358, 29355), (365, 29421), (368, 29448), (372, 29475), (376, 29514), (379, 29538), (384, 29580), (389, 29652), (394, 29721), (397, 29766), (416, 30084), (417, 30090), (418, 30108), (425, 30204), (435, 30408), (447, 30552), (450, 30627), (453, 30639), (458, 30723), (493, 31062), (499, 31101), (500, 31107), (503, 31113), (506, 31140), (511, 31176), (512, 31188),

Gene: Kewpiedoll\_32 Start: 24214, Stop: 29250, Start Num: 11

Candidate Starts for Kewpiedoll\_32:

(Start: 11 @24214 has 58 MA's), (26, 24388), (28, 24412), (30, 24421), (31, 24454), (33, 24472), (37, 24487), (48, 24586), (53, 24661), (54, 24667), (55, 24670), (62, 24727), (63, 24745), (65, 24754), (67, 24769), (77, 24817), (93, 24934), (97, 24952), (98, 24964), (103, 25003), (116, 25144), (119, 25204), (121, 25237), (124, 25279), (131, 25351), (133, 25366), (134, 25369), (141, 25480), (142, 25516), (144, 25567), (147, 25609), (149, 25639), (153, 25690), (156, 25723), (157, 25756), (158, 25768), (166, 25849), (169, 25870), (172, 25882), (181, 25978), (182, 25993), (183, 26014), (184, 26065), (186, 26074), (191, 26152), (198, 26200), (199, 26209), (203, 26269), (209, 26314), (212, 26323), (220, 26350), (224, 26377), (226, 26398), (229, 26434), (236, 26500), (238, 26536), (243, 26623), (244, 26626), (258, 26704), (269, 26764), (279, 26836), (281, 26854), (291, 26899), (297, 26911), (299, 26932), (301, 26938), (303, 26947), (307, 26971), (313, 27034), (320, 27088), (326, 27151), (341, 27262), (347, 27289), (348, 27295), (358, 27397), (360, 27409), (365, 27463), (368, 27490), (372, 27517), (376, 27556), (382, 27595), (384, 27622), (389, 27694), (390, 27703), (394, 27763), (397, 27808), (412, 27997), (416, 28126), (417, 28132), (418, 28150), (425, 28246), (429, 28351), (435, 28450), (447, 28594), (450, 28669), (453, 28681), (458, 28765), (493, 29104), (499, 29143), (500, 29149), (503, 29155), (506, 29182), (511, 29218), (512, 29230),

Gene: KimmyK\_31 Start: 20106, Stop: 25637, Start Num: 1

Candidate Starts for KimmyK\_31:

(Start: 1 @20106 has 29 MA's), (3, 20193), (4, 20280), (6, 20313), (7, 20337), (Start: 12 @20460 has 7 MA's), (13, 20481), (14, 20487), (15, 20511), (19, 20541), (25, 20580), (32, 20664), (40, 20700), (43, 20724), (48, 20763), (100, 21153), (116, 21321), (119, 21381), (124, 21453), (125, 21465), (128, 21501), (130, 21525), (138, 21624), (139, 21627), (141, 21657), (143, 21732), (144, 21744), (147,

21786), (149, 21816), (153, 21867), (165, 22008), (166, 22026), (167, 22038), (169, 22047), (180, 22149), (182, 22170), (183, 22191), (184, 22242), (185, 22245), (186, 22251), (191, 22329), (195, 22359), (198, 22377), (203, 22446), (206, 22479), (208, 22485), (210, 22494), (213, 22500), (224, 22554), (227, 22599), (230, 22626), (231, 22635), (233, 22656), (238, 22713), (240, 22749), (248, 22830), (250, 22833), (256, 22902), (267, 22974), (276, 23070), (284, 23136), (285, 23139), (289, 23163), (293, 23190), (294, 23193), (295, 23196), (296, 23202), (304, 23271), (306, 23280), (310, 23325), (311, 23334), (322, 23412), (327, 23466), (334, 23520), (340, 23577), (350, 23619), (354, 23655), (358, 23718), (364, 23769), (377, 23880), (383, 23919), (387, 24000), (400, 24174), (401, 24177), (404, 24210), (414, 24417), (416, 24426), (417, 24432), (433, 24744), (446, 24951), (451, 25089), (463, 25239), (473, 25350), (480, 25395), (481, 25404), (482, 25410), (487, 25446), (496, 25539), (498, 25551), (505, 25581), (507, 25614), (509, 25626),

Gene: Kroos\_33 Start: 24403, Stop: 29418, Start Num: 11

Candidate Starts for Kroos\_33:

(Start: 11 @24403 has 58 MA's), (16, 24478), (21, 24523), (26, 24577), (28, 24601), (31, 24643), (33, 24661), (37, 24676), (44, 24748), (48, 24775), (53, 24850), (55, 24859), (61, 24895), (62, 24916), (63, 24934), (64, 24940), (67, 24958), (73, 24985), (103, 25192), (105, 25204), (108, 25252), (119, 25393), (121, 25426), (124, 25468), (131, 25540), (133, 25555), (134, 25558), (141, 25669), (142, 25705), (144, 25756), (147, 25798), (149, 25828), (153, 25879), (156, 25912), (157, 25945), (158, 25957), (166, 26038), (172, 26071), (173, 26074), (177, 26131), (181, 26167), (182, 26182), (183, 26203), (184, 26254), (198, 26389), (203, 26458), (208, 26497), (209, 26503), (212, 26512), (220, 26539), (224, 26566), (226, 26587), (229, 26623), (231, 26647), (232, 26650), (235, 26686), (238, 26725), (239, 26743), (241, 26767), (244, 26815), (250, 26845), (258, 26893), (261, 26899), (278, 27022), (279, 27025), (280, 27031), (291, 27088), (297, 27100), (299, 27121), (301, 27127), (307, 27160), (308, 27166), (313, 27223), (320, 27277), (326, 27340), (341, 27451), (347, 27478), (348, 27484), (358, 27586), (365, 27652), (382, 27784), (384, 27811), (390, 27892), (394, 27952), (397, 27997), (414, 28303), (416, 28312), (419, 28339), (423, 28408), (429, 28537), (435, 28636), (447, 28780), (450, 28849), (451, 28855), (453, 28861), (458, 28936), (460, 28966), (473, 29104), (482, 29164), (487, 29200), (490, 29245), (493, 29272), (499, 29311), (500, 29317), (503, 29323), (506, 29350), (511, 29386), (512, 29398),

Gene: Kwekel\_30 Start: 21376, Stop: 26505, Start Num: 11

Candidate Starts for Kwekel\_30:

(Start: 11 @21376 has 58 MA's), (21, 21496), (26, 21550), (29, 21583), (35, 21640), (37, 21649), (38, 21652), (45, 21733), (48, 21748), (50, 21784), (53, 21823), (54, 21829), (56, 21835), (61, 21868), (66, 21910), (68, 21919), (70, 21928), (71, 21934), (83, 22012), (86, 22030), (92, 22069), (103, 22141), (121, 22363), (124, 22405), (131, 22477), (134, 22495), (138, 22573), (141, 22606), (142, 22642), (144, 22693), (149, 22765), (150, 22789), (151, 22795), (153, 22816), (156, 22849), (160, 22900), (162, 22930), (169, 22996), (175, 23041), (180, 23098), (183, 23140), (185, 23194), (188, 23227), (194, 23305), (202, 23392), (206, 23428), (208, 23434), (218, 23464), (219, 23473), (224, 23503), (226, 23524), (230, 23575), (234, 23608), (235, 23623), (247, 23782), (259, 23857), (260, 23860), (265, 23887), (274, 23962), (275, 23965), (277, 23983), (285, 24010), (291, 24049), (301, 24088), (307, 24121), (314, 24196), (315, 24205), (316, 24214), (317, 24220), (323, 24262), (324, 24271), (328, 24304), (329, 24316), (332, 24337), (333, 24349), (336, 24382), (339, 24403), (356, 24535), (362, 24589), (385, 24796), (388, 24835), (393, 24910), (404, 25048), (407, 25066), (410, 25144), (419, 25333), (421, 25363), (426, 25534), (431, 25561), (441, 25768), (442, 25771), (444, 25789), (461, 26038), (466, 26068), (477, 26197), (495, 26356), (502, 26398), (505, 26416), (506, 26431), (510, 26470),

Gene: Kwobi\_33 Start: 24389, Stop: 29404, Start Num: 11

Candidate Starts for Kwobi\_33:

(Start: 11 @24389 has 58 MA's), (17, 24476), (21, 24509), (26, 24563), (28, 24587), (31, 24629), (33, 24647), (37, 24662), (44, 24734), (48, 24761), (53, 24836), (55, 24845), (62, 24902), (63, 24920), (64,



24926), (103, 25178), (108, 25238), (119, 25379), (121, 25412), (124, 25454), (131, 25526), (133, 25541), (134, 25544), (141, 25655), (142, 25691), (144, 25742), (147, 25784), (149, 25814), (151, 25844), (156, 25898), (157, 25931), (166, 26024), (172, 26057), (173, 26060), (177, 26117), (181, 26153), (182, 26168), (183, 26189), (184, 26240), (198, 26375), (199, 26384), (206, 26477), (208, 26483), (209, 26489), (212, 26498), (219, 26522), (222, 26534), (224, 26552), (229, 26609), (238, 26711), (244, 26801), (250, 26831), (258, 26879), (261, 26885), (278, 27008), (279, 27011), (280, 27017), (291, 27074), (297, 27086), (299, 27107), (301, 27113), (307, 27146), (313, 27209), (320, 27263), (326, 27326), (341, 27437), (347, 27464), (348, 27470), (358, 27572), (365, 27638), (382, 27770), (384, 27797), (390, 27878), (394, 27938), (397, 27983), (414, 28289), (416, 28298), (419, 28325), (423, 28394), (429, 28523), (435, 28622), (447, 28766), (450, 28835), (451, 28841), (453, 28847), (458, 28922), (460, 28952), (473, 29090), (482, 29150), (487, 29186), (490, 29231), (493, 29258), (499, 29297), (500, 29303), (503, 29309), (506, 29336), (511, 29372), (512, 29384),

Gene: Lennon\_33 Start: 26184, Stop: 30995, Start Num: 11

Candidate Starts for Lennon\_33:

(Start: 11 @26184 has 58 MA's), (26, 26358), (28, 26382), (57, 26520), (67, 26559), (69, 26565), (72, 26577), (76, 26595), (79, 26607), (80, 26634), (84, 26652), (87, 26664), (103, 26763), (115, 26883), (116, 26904), (119, 26964), (121, 26997), (124, 27039), (127, 27075), (131, 27111), (133, 27126), (134, 27129), (141, 27240), (142, 27276), (144, 27327), (147, 27369), (149, 27399), (153, 27450), (156, 27483), (157, 27516), (158, 27528), (166, 27609), (169, 27630), (172, 27642), (181, 27738), (182, 27753), (183, 27774), (184, 27825), (186, 27834), (191, 27912), (198, 27960), (199, 27969), (203, 28029), (208, 28068), (209, 28074), (212, 28083), (220, 28110), (224, 28137), (226, 28158), (229, 28194), (236, 28260), (238, 28296), (243, 28383), (244, 28386), (248, 28413), (258, 28464), (261, 28470), (279, 28596), (301, 28698), (307, 28731), (313, 28794), (320, 28848), (326, 28911), (341, 29022), (347, 29049), (348, 29055), (358, 29157), (360, 29169), (365, 29223), (368, 29250), (372, 29277), (376, 29316), (379, 29340), (384, 29382), (389, 29454), (390, 29463), (394, 29523), (397, 29568), (416, 29883), (417, 29889), (418, 29907), (425, 30003), (429, 30108), (435, 30207), (447, 30351), (450, 30414), (453, 30426), (458, 30510), (493, 30849), (499, 30888), (500, 30894), (503, 30900), (506, 30927), (511, 30963), (512, 30975),

Gene: Leonard\_31 Start: 23260, Stop: 28149, Start Num: 12

Candidate Starts for Leonard\_31:

(Start: 12 @23260 has 7 MA's), (21, 23380), (26, 23434), (28, 23458), (37, 23533), (38, 23536), (48, 23632), (53, 23707), (54, 23713), (56, 23719), (59, 23743), (61, 23752), (70, 23812), (71, 23818), (74, 23827), (79, 23857), (86, 23914), (92, 23953), (94, 23962), (103, 24025), (104, 24028), (110, 24103), (111, 24112), (121, 24247), (122, 24256), (124, 24289), (126, 24313), (134, 24379), (136, 24442), (142, 24526), (143, 24565), (144, 24577), (148, 24625), (149, 24649), (153, 24700), (156, 24733), (160, 24784), (163, 24814), (167, 24871), (170, 24883), (173, 24895), (178, 24970), (183, 25024), (185, 25078), (186, 25084), (188, 25111), (197, 25198), (198, 25210), (199, 25219), (203, 25279), (204, 25291), (206, 25312), (208, 25318), (209, 25324), (210, 25327), (219, 25357), (220, 25360), (222, 25369), (223, 25381), (224, 25387), (227, 25432), (231, 25468), (232, 25471), (234, 25492), (242, 25609), (250, 25666), (264, 25753), (273, 25819), (297, 25876), (298, 25879), (301, 25903), (312, 25993), (318, 26041), (334, 26170), (343, 26239), (349, 26269), (352, 26287), (368, 26461), (369, 26464), (382, 26569), (389, 26668), (390, 26677), (394, 26737), (396, 26767), (402, 26848), (415, 27079), (416, 27085), (421, 27148), (430, 27346), (436, 27475), (437, 27514), (459, 27796), (464, 27841), (467, 27868), (471, 27937), (488, 28060), (491, 28102), (492, 28114),

Gene: LilHam\_30 Start: 22983, Stop: 28007, Start Num: 11

Candidate Starts for LilHam\_30:

(Start: 11 @22983 has 58 MA's), (17, 23070), (21, 23103), (26, 23157), (28, 23181), (31, 23223), (33, 23241), (37, 23256), (44, 23328), (48, 23355), (53, 23430), (55, 23439), (62, 23496), (63, 23514), (64, 23520), (103, 23772), (108, 23832), (119, 23973), (121, 24006), (124, 24048), (131, 24120), (133, 24135), (134, 24138), (141, 24249), (142, 24285), (144, 24336), (147, 24378), (149, 24408), (153,

24459), (156, 24492), (157, 24525), (158, 24537), (166, 24618), (172, 24651), (173, 24654), (177, 24711), (181, 24747), (182, 24762), (183, 24783), (184, 24834), (198, 24969), (199, 24978), (206, 25071), (208, 25077), (209, 25083), (212, 25092), (217, 25104), (219, 25116), (222, 25128), (224, 25146), (229, 25203), (238, 25305), (239, 25323), (241, 25347), (244, 25395), (250, 25425), (258, 25473), (261, 25479), (278, 25602), (279, 25605), (280, 25611), (291, 25668), (297, 25680), (299, 25701), (301, 25707), (307, 25740), (313, 25803), (320, 25857), (341, 26031), (347, 26058), (348, 26064), (358, 26166), (365, 26232), (384, 26391), (390, 26472), (394, 26532), (397, 26577), (414, 26889), (416, 26898), (419, 26925), (423, 26994), (429, 27123), (435, 27222), (447, 27366), (450, 27438), (451, 27444), (453, 27450), (458, 27525), (460, 27555), (473, 27693), (482, 27753), (487, 27789), (490, 27834), (493, 27861), (499, 27900), (500, 27906), (503, 27912), (506, 27939), (511, 27975), (512, 27987),

Gene: Lilbeanie\_28 Start: 18351, Stop: 23423, Start Num: 11

Candidate Starts for Lilbeanie\_28:

(Start: 11 @18351 has 58 MA's), (16, 18426), (23, 18492), (26, 18525), (28, 18549), (30, 18558), (41, 18633), (46, 18663), (51, 18693), (75, 18813), (92, 18930), (96, 18948), (103, 19002), (104, 19005), (106, 19035), (111, 19089), (117, 19140), (120, 19221), (121, 19224), (132, 19347), (134, 19359), (141, 19470), (142, 19506), (143, 19545), (145, 19569), (147, 19599), (149, 19629), (156, 19713), (157, 19749), (166, 19839), (171, 19869), (174, 19902), (175, 19905), (177, 19932), (183, 20004), (184, 20055), (185, 20058), (186, 20064), (188, 20091), (189, 20112), (191, 20142), (193, 20166), (196, 20175), (206, 20292), (208, 20298), (216, 20322), (218, 20328), (222, 20349), (224, 20367), (229, 20424), (235, 20487), (238, 20526), (251, 20649), (273, 20754), (289, 20823), (306, 20898), (320, 21006), (321, 21009), (330, 21066), (335, 21108), (337, 21123), (346, 21162), (350, 21171), (356, 21231), (359, 21255), (364, 21303), (367, 21327), (382, 21408), (384, 21435), (389, 21507), (390, 21516), (393, 21567), (394, 21576), (397, 21621), (416, 21915), (419, 21942), (443, 22335), (448, 22422), (455, 22542), (478, 22785), (483, 22827), (484, 22830), (491, 22911), (501, 22974), (508, 23034), (513, 23079), (514, 23091), (515, 23118), (516, 23181), (517, 23202), (518, 23241), (519, 23265), (520, 23301), (521, 23316), (522, 23349), (523, 23376), (524, 23388),

Gene: Love\_36 Start: 25948, Stop: 30777, Start Num: 11

Candidate Starts for Love\_36:

(Start: 11 @25948 has 58 MA's), (26, 26122), (28, 26146), (57, 26284), (69, 26329), (72, 26341), (76, 26359), (79, 26371), (80, 26398), (84, 26416), (87, 26428), (103, 26527), (115, 26647), (116, 26668), (119, 26728), (121, 26761), (124, 26803), (127, 26839), (131, 26875), (133, 26890), (134, 26893), (141, 27004), (142, 27040), (144, 27091), (147, 27133), (149, 27163), (153, 27214), (156, 27247), (158, 27292), (166, 27373), (169, 27394), (172, 27406), (181, 27502), (182, 27517), (183, 27538), (184, 27589), (186, 27598), (198, 27724), (199, 27733), (203, 27793), (209, 27838), (212, 27847), (220, 27874), (224, 27901), (226, 27922), (229, 27958), (236, 28024), (238, 28060), (243, 28147), (244, 28150), (245, 28159), (248, 28177), (258, 28228), (261, 28234), (279, 28360), (297, 28435), (301, 28462), (307, 28495), (313, 28558), (320, 28612), (326, 28675), (341, 28786), (347, 28813), (348, 28819), (358, 28921), (360, 28933), (365, 28987), (368, 29014), (372, 29041), (376, 29080), (384, 29146), (389, 29218), (390, 29227), (394, 29287), (397, 29332), (416, 29647), (417, 29653), (418, 29671), (425, 29767), (429, 29872), (435, 29971), (447, 30115), (450, 30196), (453, 30208), (458, 30292), (468, 30382), (493, 30631), (499, 30670), (500, 30676), (503, 30682), (506, 30709), (511, 30745), (512, 30757),

Gene: McKinley\_35 Start: 25980, Stop: 30803, Start Num: 11

Candidate Starts for McKinley\_35:

(Start: 11 @25980 has 58 MA's), (26, 26154), (28, 26178), (57, 26316), (69, 26361), (72, 26373), (76, 26391), (79, 26403), (80, 26430), (84, 26448), (87, 26460), (103, 26559), (115, 26679), (116, 26700), (119, 26760), (121, 26793), (124, 26835), (127, 26871), (131, 26907), (133, 26922), (134, 26925), (141, 27036), (142, 27072), (144, 27123), (147, 27165), (149, 27195), (153, 27246), (156, 27279), (157, 27312), (158, 27324), (166, 27405), (169, 27426), (172, 27438), (181, 27534), (182, 27549),

(183, 27570), (184, 27621), (186, 27630), (191, 27708), (198, 27756), (199, 27765), (203, 27825), (208, 27864), (209, 27870), (212, 27879), (220, 27906), (224, 27933), (226, 27954), (229, 27990), (236, 28056), (237, 28077), (238, 28092), (243, 28179), (244, 28182), (258, 28260), (269, 28320), (279, 28392), (301, 28494), (307, 28527), (313, 28590), (320, 28644), (326, 28707), (341, 28818), (347, 28845), (348, 28851), (358, 28953), (360, 28965), (365, 29019), (368, 29046), (372, 29073), (376, 29112), (379, 29136), (382, 29151), (384, 29178), (389, 29250), (390, 29259), (394, 29319), (397, 29364), (412, 29553), (416, 29682), (417, 29688), (418, 29706), (425, 29805), (429, 29910), (434, 29982), (435, 30009), (447, 30153), (450, 30222), (453, 30234), (458, 30318), (493, 30657), (499, 30696), (500, 30702), (503, 30708), (506, 30735), (511, 30771), (512, 30783),

Gene: MelBins\_32 Start: 23406, Stop: 28298, Start Num: 12

Candidate Starts for MelBins\_32:

(Start: 12 @23406 has 7 MA's), (21, 23526), (26, 23580), (28, 23604), (37, 23679), (38, 23682), (48, 23778), (53, 23853), (54, 23859), (56, 23865), (59, 23889), (61, 23898), (70, 23958), (71, 23964), (74, 23973), (79, 24003), (86, 24060), (92, 24099), (94, 24108), (95, 24111), (103, 24171), (104, 24174), (110, 24249), (111, 24258), (121, 24393), (122, 24402), (124, 24435), (126, 24459), (134, 24525), (136, 24588), (142, 24672), (143, 24711), (144, 24723), (148, 24771), (149, 24795), (156, 24879), (160, 24930), (163, 24960), (167, 25017), (170, 25029), (178, 25116), (183, 25170), (185, 25224), (186, 25230), (188, 25257), (197, 25344), (198, 25356), (199, 25365), (203, 25425), (204, 25437), (206, 25458), (208, 25464), (209, 25470), (210, 25473), (211, 25476), (219, 25503), (220, 25506), (222, 25515), (223, 25527), (224, 25533), (227, 25578), (231, 25614), (232, 25617), (234, 25638), (242, 25755), (250, 25812), (264, 25899), (273, 25965), (297, 26022), (298, 26025), (301, 26049), (312, 26139), (318, 26187), (334, 26316), (343, 26385), (349, 26415), (352, 26433), (354, 26451), (368, 26607), (369, 26610), (382, 26715), (389, 26814), (390, 26823), (394, 26883), (396, 26913), (402, 26994), (415, 27225), (416, 27231), (421, 27294), (427, 27471), (430, 27492), (436, 27621), (437, 27660), (464, 27990), (471, 28086), (472, 28095), (488, 28209), (491, 28251), (492, 28263),

Gene: MoontowerMania\_32 Start: 24791, Stop: 29617, Start Num: 11

Candidate Starts for MoontowerMania\_32:

(Start: 11 @24791 has 58 MA's), (26, 24965), (28, 24989), (57, 25127), (69, 25172), (72, 25184), (76, 25202), (79, 25214), (84, 25259), (103, 25370), (115, 25490), (116, 25511), (119, 25571), (121, 25604), (124, 25646), (131, 25718), (133, 25733), (134, 25736), (141, 25847), (142, 25883), (144, 25934), (147, 25976), (149, 26006), (153, 26057), (156, 26090), (157, 26123), (158, 26135), (166, 26216), (169, 26237), (172, 26249), (181, 26345), (182, 26360), (183, 26381), (184, 26432), (186, 26441), (191, 26519), (198, 26567), (199, 26576), (203, 26636), (209, 26681), (212, 26690), (220, 26717), (224, 26744), (226, 26765), (229, 26801), (236, 26867), (238, 26903), (243, 26990), (244, 26993), (245, 27002), (248, 27020), (258, 27071), (261, 27077), (279, 27203), (297, 27278), (301, 27305), (307, 27338), (313, 27401), (320, 27455), (326, 27518), (341, 27629), (347, 27656), (348, 27662), (358, 27764), (360, 27776), (365, 27830), (368, 27857), (372, 27884), (376, 27923), (379, 27947), (382, 27962), (384, 27989), (389, 28061), (390, 28070), (394, 28130), (397, 28175), (416, 28493), (417, 28499), (418, 28517), (425, 28613), (429, 28718), (435, 28817), (447, 28961), (450, 29036), (453, 29048), (458, 29132), (493, 29471), (499, 29510), (500, 29516), (503, 29522), (506, 29549), (511, 29585), (512, 29597),

Gene: Mutzi\_31 Start: 19848, Stop: 25364, Start Num: 1

Candidate Starts for Mutzi\_31:

(Start: 1 @19848 has 29 MA's), (3, 19935), (4, 20022), (6, 20055), (7, 20079), (Start: 12 @20202 has 7 MA's), (13, 20223), (14, 20229), (15, 20253), (19, 20283), (25, 20322), (32, 20406), (40, 20442), (43, 20466), (48, 20505), (85, 20793), (100, 20895), (108, 20982), (116, 21063), (119, 21123), (124, 21195), (128, 21243), (130, 21267), (138, 21366), (139, 21369), (141, 21399), (143, 21474), (144, 21486), (147, 21528), (149, 21558), (153, 21609), (156, 21642), (164, 21747), (165, 21750), (166, 21768), (167, 21780), (169, 21789), (180, 21891), (182, 21912), (183, 21933), (184, 21984), (185, 21987), (191, 22071), (193, 22095), (195, 22101), (198, 22119), (203, 22188), (206, 22221), (208,

22227), (210, 22236), (213, 22242), (224, 22296), (230, 22368), (231, 22377), (233, 22398), (238, 22455), (240, 22491), (248, 22572), (250, 22575), (254, 22629), (256, 22644), (267, 22716), (276, 22812), (284, 22878), (285, 22881), (289, 22905), (293, 22932), (294, 22935), (295, 22938), (304, 23013), (305, 23019), (306, 23022), (310, 23067), (311, 23076), (322, 23154), (327, 23208), (334, 23262), (340, 23319), (350, 23361), (358, 23460), (364, 23511), (377, 23622), (383, 23661), (387, 23742), (391, 23784), (400, 23916), (401, 23919), (403, 23949), (404, 23952), (406, 23967), (414, 24159), (416, 24168), (417, 24174), (433, 24486), (445, 24681), (446, 24693), (463, 24966), (480, 25122), (481, 25131), (482, 25137), (487, 25173), (496, 25266), (498, 25278), (505, 25308), (507, 25341), (509, 25353),

Gene: Natkenzie\_33 Start: 24850, Stop: 29775, Start Num: 11

Candidate Starts for Natkenzie\_33:

(Start: 11 @24850 has 58 MA's), (21, 24970), (22, 24982), (26, 25024), (28, 25048), (36, 25114), (37, 25123), (42, 25168), (44, 25195), (53, 25297), (55, 25306), (58, 25324), (68, 25390), (71, 25405), (74, 25414), (81, 25477), (83, 25483), (88, 25510), (92, 25540), (94, 25549), (101, 25597), (103, 25612), (105, 25624), (111, 25711), (114, 25723), (121, 25846), (123, 25870), (124, 25888), (131, 25960), (132, 25966), (134, 25978), (141, 26089), (142, 26125), (143, 26164), (144, 26176), (147, 26218), (149, 26248), (152, 26290), (153, 26299), (154, 26302), (156, 26332), (157, 26365), (166, 26458), (173, 26494), (177, 26551), (180, 26581), (183, 26623), (185, 26677), (186, 26683), (188, 26710), (191, 26761), (197, 26797), (198, 26809), (199, 26818), (203, 26878), (204, 26890), (206, 26911), (208, 26917), (220, 26959), (221, 26965), (223, 26980), (224, 26986), (227, 27031), (231, 27067), (232, 27070), (238, 27145), (242, 27208), (250, 27265), (263, 27346), (270, 27397), (288, 27454), (297, 27475), (298, 27478), (301, 27502), (318, 27640), (322, 27661), (349, 27868), (352, 27886), (355, 27943), (365, 28033), (370, 28096), (382, 28177), (384, 28204), (389, 28276), (390, 28285), (394, 28345), (402, 28456), (414, 28687), (416, 28696), (419, 28723), (422, 28765), (432, 28984), (433, 29011), (436, 29083), (437, 29122), (452, 29329), (457, 29401), (464, 29467), (475, 29602), (485, 29665), (486, 29668), (488, 29686), (489, 29701), (491, 29728), (492, 29740),

Gene: Nordenberg\_27 Start: 24150, Stop: 28973, Start Num: 11

Candidate Starts for Nordenberg\_27:

(Start: 11 @24150 has 58 MA's), (26, 24324), (28, 24348), (57, 24486), (69, 24531), (72, 24543), (76, 24561), (79, 24573), (80, 24600), (84, 24618), (87, 24630), (103, 24729), (115, 24849), (116, 24870), (119, 24930), (121, 24963), (124, 25005), (127, 25041), (131, 25077), (133, 25092), (134, 25095), (141, 25206), (142, 25242), (144, 25293), (147, 25335), (149, 25365), (153, 25416), (156, 25449), (158, 25494), (166, 25575), (172, 25608), (181, 25704), (182, 25719), (183, 25740), (184, 25791), (186, 25800), (198, 25926), (199, 25935), (203, 25995), (208, 26034), (209, 26040), (212, 26049), (220, 26076), (224, 26103), (226, 26124), (229, 26160), (236, 26226), (238, 26262), (243, 26349), (244, 26352), (245, 26361), (248, 26379), (258, 26430), (261, 26436), (279, 26562), (297, 26637), (301, 26664), (307, 26697), (313, 26760), (320, 26814), (326, 26877), (341, 26988), (347, 27015), (348, 27021), (358, 27123), (360, 27135), (365, 27189), (368, 27216), (372, 27243), (376, 27282), (384, 27348), (389, 27420), (390, 27429), (394, 27489), (397, 27534), (416, 27852), (417, 27858), (418, 27876), (425, 27969), (429, 28074), (435, 28173), (447, 28317), (450, 28392), (453, 28404), (458, 28488), (493, 28827), (499, 28866), (500, 28872), (503, 28878), (506, 28905), (511, 28941), (512, 28953),

Gene: Nubi\_29 Start: 19412, Stop: 24925, Start Num: 1

Candidate Starts for Nubi\_29:

(Start: 1 @19412 has 29 MA's), (3, 19499), (4, 19586), (6, 19619), (7, 19643), (Start: 12 @19766 has 7 MA's), (13, 19787), (14, 19793), (15, 19817), (19, 19847), (25, 19886), (32, 19970), (40, 20006), (43, 20030), (48, 20069), (100, 20459), (116, 20627), (119, 20687), (124, 20759), (125, 20771), (128, 20807), (130, 20831), (138, 20930), (139, 20933), (141, 20963), (143, 21038), (144, 21050), (147, 21092), (149, 21122), (153, 21173), (165, 21314), (166, 21332), (167, 21344), (169, 21353), (180, 21455), (182, 21476), (183, 21497), (184, 21548), (185, 21551), (191, 21635), (195, 21665), (198,

21683), (203, 21752), (206, 21785), (208, 21791), (210, 21800), (213, 21806), (224, 21860), (230, 21932), (233, 21962), (238, 22019), (240, 22055), (248, 22136), (250, 22139), (256, 22208), (276, 22376), (284, 22442), (285, 22445), (289, 22469), (293, 22496), (294, 22499), (295, 22502), (306, 22586), (310, 22631), (311, 22640), (318, 22697), (322, 22718), (327, 22772), (334, 22826), (340, 22883), (350, 22925), (354, 22961), (357, 23006), (358, 23024), (364, 23075), (377, 23186), (383, 23225), (387, 23306), (400, 23480), (401, 23483), (404, 23516), (414, 23720), (416, 23729), (417, 23735), (433, 24044), (446, 24251), (451, 24377), (463, 24527), (473, 24638), (480, 24683), (481, 24692), (482, 24698), (487, 24734), (496, 24827), (498, 24839), (505, 24869), (507, 24902), (509, 24914),

Gene: Paries\_35 Start: 25616, Stop: 30439, Start Num: 11

Candidate Starts for Paries\_35:

(Start: 11 @25616 has 58 MA's), (26, 25790), (28, 25814), (57, 25952), (66, 25985), (69, 25997), (72, 26009), (76, 26027), (79, 26039), (84, 26084), (103, 26195), (115, 26315), (116, 26336), (119, 26396), (121, 26429), (124, 26471), (127, 26507), (131, 26543), (133, 26558), (134, 26561), (141, 26672), (142, 26708), (144, 26759), (147, 26801), (149, 26831), (153, 26882), (156, 26915), (157, 26948), (158, 26960), (166, 27041), (169, 27062), (172, 27074), (181, 27170), (182, 27185), (183, 27206), (184, 27257), (186, 27266), (191, 27344), (198, 27392), (199, 27401), (203, 27461), (209, 27506), (212, 27515), (220, 27542), (224, 27569), (226, 27590), (229, 27626), (236, 27692), (238, 27728), (243, 27815), (244, 27818), (245, 27827), (248, 27845), (258, 27896), (261, 27902), (279, 28028), (297, 28103), (301, 28130), (307, 28163), (313, 28226), (320, 28280), (326, 28343), (341, 28454), (347, 28481), (348, 28487), (358, 28589), (360, 28601), (365, 28655), (368, 28682), (372, 28709), (376, 28748), (384, 28814), (389, 28886), (390, 28895), (394, 28955), (397, 29000), (416, 29315), (417, 29321), (418, 29339), (425, 29435), (429, 29540), (435, 29639), (447, 29783), (450, 29858), (453, 29870), (458, 29954), (493, 30293), (499, 30332), (500, 30338), (503, 30344), (506, 30371), (511, 30407), (512, 30419),

Gene: Phauci\_24 Start: 19849, Stop: 24738, Start Num: 12

Candidate Starts for Phauci\_24:

(Start: 12 @19849 has 7 MA's), (21, 19969), (26, 20023), (28, 20047), (37, 20122), (38, 20125), (48, 20221), (53, 20296), (54, 20302), (56, 20308), (59, 20332), (61, 20341), (70, 20401), (71, 20407), (74, 20416), (79, 20446), (86, 20503), (92, 20542), (94, 20551), (103, 20614), (104, 20617), (110, 20692), (111, 20701), (121, 20836), (122, 20845), (124, 20878), (126, 20902), (134, 20968), (136, 21031), (142, 21115), (143, 21154), (144, 21166), (148, 21214), (149, 21238), (153, 21289), (156, 21322), (160, 21373), (163, 21403), (167, 21460), (170, 21472), (173, 21484), (178, 21559), (183, 21613), (185, 21667), (188, 21700), (197, 21787), (198, 21799), (199, 21808), (203, 21868), (204, 21880), (206, 21901), (208, 21907), (209, 21913), (210, 21916), (211, 21919), (219, 21946), (220, 21949), (222, 21958), (223, 21970), (224, 21976), (227, 22021), (231, 22057), (232, 22060), (234, 22081), (242, 22198), (250, 22255), (264, 22342), (273, 22408), (297, 22465), (298, 22468), (301, 22492), (312, 22582), (318, 22630), (334, 22759), (343, 22828), (345, 22837), (349, 22858), (352, 22876), (354, 22894), (368, 23050), (369, 23053), (382, 23158), (390, 23266), (394, 23326), (396, 23356), (402, 23437), (415, 23668), (416, 23674), (420, 23722), (421, 23737), (424, 23803), (430, 23935), (436, 24064), (437, 24103), (464, 24430), (471, 24526), (488, 24649), (491, 24691), (492, 24703),

Gene: Phinally\_31 Start: 23257, Stop: 28146, Start Num: 12

Candidate Starts for Phinally\_31:

(Start: 12 @23257 has 7 MA's), (21, 23377), (26, 23431), (28, 23455), (37, 23530), (38, 23533), (48, 23629), (53, 23704), (54, 23710), (56, 23716), (59, 23740), (61, 23749), (70, 23809), (71, 23815), (74, 23824), (79, 23854), (86, 23911), (92, 23950), (94, 23959), (103, 24022), (104, 24025), (110, 24100), (111, 24109), (121, 24244), (122, 24253), (124, 24286), (126, 24310), (134, 24376), (136, 24439), (142, 24523), (143, 24562), (144, 24574), (148, 24622), (149, 24646), (153, 24697), (156, 24730), (160, 24781), (163, 24811), (167, 24868), (170, 24880), (173, 24892), (178, 24967), (183, 25021), (185, 25075), (186, 25081), (188, 25108), (197, 25195), (198, 25207), (199, 25216), (203, 25276),

(204, 25288), (206, 25309), (208, 25315), (209, 25321), (210, 25324), (219, 25354), (220, 25357), (222, 25366), (223, 25378), (224, 25384), (227, 25429), (231, 25465), (232, 25468), (234, 25489), (242, 25606), (250, 25663), (264, 25750), (273, 25816), (297, 25873), (298, 25876), (301, 25900), (312, 25990), (318, 26038), (334, 26167), (343, 26236), (349, 26266), (352, 26284), (368, 26458), (369, 26461), (382, 26566), (389, 26665), (390, 26674), (394, 26734), (396, 26764), (402, 26845), (415, 27076), (416, 27082), (421, 27145), (430, 27343), (436, 27472), (437, 27511), (459, 27793), (464, 27838), (467, 27865), (471, 27934), (488, 28057), (491, 28099), (492, 28111),

Gene: Phlop\_29 Start: 19476, Stop: 25007, Start Num: 1

Candidate Starts for Phlop\_29:

(Start: 1 @19476 has 29 MA's), (3, 19563), (4, 19650), (6, 19683), (7, 19707), (Start: 12 @19830 has 7 MA's), (13, 19851), (14, 19857), (15, 19881), (19, 19911), (25, 19950), (32, 20034), (40, 20070), (43, 20094), (48, 20133), (100, 20523), (116, 20691), (119, 20751), (124, 20823), (125, 20835), (128, 20871), (130, 20895), (138, 20994), (139, 20997), (141, 21027), (143, 21102), (144, 21114), (147, 21156), (149, 21186), (153, 21237), (165, 21378), (166, 21396), (167, 21408), (169, 21417), (180, 21519), (182, 21540), (183, 21561), (184, 21612), (185, 21615), (186, 21621), (191, 21699), (195, 21729), (198, 21747), (203, 21816), (206, 21849), (208, 21855), (210, 21864), (213, 21870), (224, 21924), (227, 21969), (230, 21996), (231, 22005), (233, 22026), (238, 22083), (240, 22119), (248, 22200), (250, 22203), (256, 22272), (267, 22344), (276, 22440), (284, 22506), (285, 22509), (289, 22533), (293, 22560), (294, 22563), (295, 22566), (296, 22572), (304, 22641), (306, 22650), (310, 22695), (311, 22704), (322, 22782), (327, 22836), (334, 22890), (340, 22947), (350, 22989), (354, 23025), (358, 23088), (364, 23139), (377, 23250), (383, 23289), (387, 23370), (400, 23544), (401, 23547), (404, 23580), (414, 23787), (416, 23796), (417, 23802), (433, 24114), (446, 24321), (451, 24459), (463, 24609), (473, 24720), (480, 24765), (481, 24774), (482, 24780), (487, 24816), (496, 24909), (498, 24921), (505, 24951), (507, 24984), (509, 24996),

Gene: PinkCoffee\_31 Start: 20115, Stop: 25646, Start Num: 1

Candidate Starts for PinkCoffee\_31:

(Start: 1 @20115 has 29 MA's), (3, 20202), (4, 20289), (6, 20322), (7, 20346), (Start: 12 @20469 has 7 MA's), (13, 20490), (14, 20496), (15, 20520), (19, 20550), (25, 20589), (32, 20673), (40, 20709), (43, 20733), (48, 20772), (100, 21162), (116, 21330), (119, 21390), (124, 21462), (125, 21474), (128, 21510), (130, 21534), (138, 21633), (139, 21636), (141, 21666), (143, 21741), (144, 21753), (147, 21795), (149, 21825), (153, 21876), (165, 22017), (166, 22035), (167, 22047), (169, 22056), (180, 22158), (182, 22179), (183, 22200), (184, 22251), (185, 22254), (186, 22260), (191, 22338), (195, 22368), (198, 22386), (203, 22455), (206, 22488), (208, 22494), (210, 22503), (213, 22509), (224, 22563), (227, 22608), (230, 22635), (231, 22644), (233, 22665), (238, 22722), (240, 22758), (248, 22839), (250, 22842), (256, 22911), (267, 22983), (276, 23079), (284, 23145), (285, 23148), (289, 23172), (293, 23199), (294, 23202), (295, 23205), (296, 23211), (304, 23280), (306, 23289), (310, 23334), (311, 23343), (322, 23421), (327, 23475), (334, 23529), (340, 23586), (350, 23628), (354, 23664), (358, 23727), (364, 23778), (377, 23889), (383, 23928), (387, 24009), (400, 24183), (401, 24186), (404, 24219), (414, 24426), (416, 24435), (417, 24441), (433, 24753), (446, 24960), (451, 25098), (463, 25248), (473, 25359), (480, 25404), (481, 25413), (487, 25455), (496, 25548), (498, 25560), (505, 25590), (507, 25623), (509, 25635),

Gene: Portcullis\_29 Start: 19434, Stop: 24956, Start Num: 1

Candidate Starts for Portcullis\_29:

(Start: 1 @19434 has 29 MA's), (3, 19521), (4, 19608), (6, 19641), (7, 19665), (Start: 12 @19788 has 7 MA's), (13, 19809), (14, 19815), (15, 19839), (19, 19869), (25, 19908), (32, 19992), (40, 20028), (43, 20052), (48, 20091), (100, 20481), (116, 20649), (119, 20709), (124, 20781), (125, 20793), (128, 20829), (130, 20853), (138, 20952), (139, 20955), (141, 20985), (143, 21060), (144, 21072), (147, 21114), (149, 21144), (153, 21195), (165, 21336), (166, 21354), (167, 21366), (169, 21375), (180, 21477), (182, 21498), (183, 21519), (184, 21570), (185, 21573), (191, 21657), (195, 21687), (198, 21705), (203, 21774), (206, 21807), (208, 21813), (210, 21822), (213, 21828), (224, 21882), (230,

21954), (231, 21963), (233, 21984), (238, 22041), (240, 22077), (248, 22158), (250, 22161), (256, 22230), (276, 22398), (284, 22464), (285, 22467), (289, 22491), (293, 22518), (294, 22521), (295, 22524), (296, 22530), (304, 22599), (306, 22608), (310, 22653), (311, 22662), (322, 22740), (327, 22794), (334, 22848), (340, 22905), (350, 22947), (354, 22983), (358, 23046), (364, 23097), (377, 23208), (383, 23247), (387, 23328), (400, 23502), (401, 23505), (404, 23538), (414, 23745), (416, 23754), (417, 23760), (419, 23781), (433, 24075), (446, 24282), (451, 24408), (463, 24558), (473, 24669), (480, 24714), (481, 24723), (482, 24729), (487, 24765), (496, 24858), (498, 24870), (505, 24900), (507, 24933), (509, 24945),

Gene: PullumCavea\_29 Start: 19476, Stop: 25007, Start Num: 1

Candidate Starts for PullumCavea\_29:

(Start: 1 @19476 has 29 MA's), (3, 19563), (4, 19650), (6, 19683), (7, 19707), (Start: 12 @19830 has 7 MA's), (13, 19851), (14, 19857), (15, 19881), (19, 19911), (25, 19950), (32, 20034), (40, 20070), (43, 20094), (48, 20133), (100, 20523), (116, 20691), (119, 20751), (124, 20823), (125, 20835), (128, 20871), (130, 20895), (138, 20994), (139, 20997), (141, 21027), (143, 21102), (144, 21114), (147, 21156), (149, 21186), (153, 21237), (165, 21378), (166, 21396), (167, 21408), (169, 21417), (180, 21519), (182, 21540), (183, 21561), (184, 21612), (185, 21615), (186, 21621), (191, 21699), (195, 21729), (198, 21747), (203, 21816), (206, 21849), (208, 21855), (210, 21864), (213, 21870), (224, 21924), (227, 21969), (230, 21996), (231, 22005), (233, 22026), (238, 22083), (240, 22119), (248, 22200), (250, 22203), (256, 22272), (267, 22344), (276, 22440), (284, 22506), (285, 22509), (289, 22533), (293, 22560), (294, 22563), (295, 22566), (296, 22572), (304, 22641), (306, 22650), (310, 22695), (311, 22704), (322, 22782), (327, 22836), (334, 22890), (340, 22947), (350, 22989), (354, 23025), (358, 23088), (364, 23139), (377, 23250), (383, 23289), (387, 23370), (400, 23544), (401, 23547), (404, 23580), (414, 23787), (416, 23796), (417, 23802), (433, 24114), (446, 24321), (451, 24459), (463, 24609), (473, 24720), (480, 24765), (481, 24774), (482, 24780), (487, 24816), (496, 24909), (498, 24921), (505, 24951), (507, 24984), (509, 24996),

Gene: Ribeye\_33 Start: 24804, Stop: 29822, Start Num: 11

Candidate Starts for Ribeye\_33:

(Start: 11 @24804 has 58 MA's), (16, 24879), (21, 24924), (26, 24978), (28, 25002), (31, 25044), (33, 25062), (37, 25077), (44, 25149), (48, 25176), (53, 25251), (55, 25260), (62, 25317), (63, 25335), (64, 25341), (67, 25359), (73, 25386), (97, 25542), (103, 25593), (105, 25605), (108, 25653), (119, 25794), (121, 25827), (124, 25869), (131, 25941), (133, 25956), (134, 25959), (141, 26070), (142, 26106), (144, 26157), (147, 26199), (149, 26229), (153, 26280), (156, 26313), (157, 26346), (158, 26358), (166, 26439), (172, 26472), (173, 26475), (177, 26532), (181, 26568), (182, 26583), (183, 26604), (184, 26655), (198, 26790), (203, 26859), (208, 26898), (209, 26904), (212, 26913), (220, 26940), (224, 26967), (226, 26988), (229, 27024), (231, 27048), (232, 27051), (235, 27087), (238, 27126), (244, 27216), (250, 27246), (258, 27294), (261, 27300), (278, 27423), (279, 27426), (280, 27432), (291, 27489), (297, 27501), (301, 27528), (307, 27561), (308, 27567), (313, 27624), (320, 27678), (326, 27741), (341, 27852), (347, 27879), (348, 27885), (358, 27987), (365, 28053), (382, 28185), (384, 28212), (390, 28293), (394, 28353), (397, 28398), (414, 28704), (416, 28713), (419, 28740), (423, 28809), (435, 29037), (447, 29181), (450, 29250), (451, 29256), (453, 29262), (458, 29340), (460, 29370), (473, 29508), (482, 29568), (487, 29604), (490, 29649), (493, 29676), (499, 29715), (500, 29721), (503, 29727), (506, 29754), (511, 29790), (512, 29802),

Gene: RiverRaider\_34 Start: 23248, Stop: 28107, Start Num: 11

Candidate Starts for RiverRaider\_34:

(Start: 11 @23248 has 58 MA's), (17, 23335), (21, 23368), (26, 23422), (28, 23446), (30, 23455), (39, 23500), (57, 23584), (66, 23617), (69, 23629), (72, 23641), (76, 23659), (79, 23671), (84, 23716), (92, 23755), (103, 23827), (110, 23917), (114, 23938), (119, 24028), (121, 24061), (124, 24103), (131, 24175), (133, 24190), (134, 24193), (141, 24304), (142, 24340), (144, 24391), (147, 24433), (149, 24463), (153, 24514), (156, 24547), (157, 24580), (158, 24592), (166, 24673), (169, 24694), (172, 24706), (175, 24739), (181, 24802), (182, 24817), (183, 24838), (184, 24889), (186, 24898), (191,

24976), (198, 25024), (201, 25072), (205, 25120), (206, 25126), (208, 25132), (212, 25147), (215, 25153), (219, 25171), (221, 25180), (224, 25201), (226, 25222), (229, 25258), (231, 25282), (235, 25321), (243, 25447), (250, 25480), (258, 25528), (261, 25534), (269, 25588), (271, 25603), (273, 25621), (279, 25660), (297, 25735), (301, 25762), (303, 25771), (307, 25795), (313, 25858), (320, 25912), (347, 26113), (348, 26119), (358, 26221), (360, 26233), (365, 26287), (375, 26368), (378, 26383), (380, 26407), (386, 26488), (401, 26665), (403, 26695), (405, 26698), (413, 26830), (416, 26911), (417, 26917), (419, 26938), (421, 26974), (424, 27037), (433, 27226), (436, 27298), (437, 27337), (450, 27532), (453, 27544), (458, 27616), (468, 27706), (479, 27823), (482, 27844), (493, 27961), (500, 28006), (503, 28012), (511, 28075), (512, 28087),

Gene: RoadKill\_28 Start: 20943, Stop: 26069, Start Num: 11

Candidate Starts for RoadKill\_28:

(Start: 11 @20943 has 58 MA's), (26, 21117), (29, 21150), (35, 21207), (37, 21216), (38, 21219), (44, 21288), (45, 21300), (48, 21315), (50, 21351), (53, 21390), (54, 21396), (56, 21402), (61, 21435), (66, 21477), (68, 21486), (70, 21495), (71, 21501), (76, 21528), (83, 21579), (86, 21597), (101, 21693), (103, 21708), (107, 21753), (113, 21801), (121, 21930), (124, 21972), (131, 22044), (134, 22062), (138, 22140), (140, 22152), (141, 22173), (142, 22209), (143, 22248), (144, 22260), (149, 22332), (150, 22356), (151, 22362), (153, 22383), (155, 22404), (156, 22416), (160, 22467), (162, 22497), (169, 22563), (180, 22665), (183, 22707), (185, 22761), (187, 22791), (188, 22794), (194, 22872), (202, 22959), (206, 22995), (208, 23001), (219, 23040), (220, 23043), (223, 23064), (224, 23070), (226, 23091), (230, 23142), (234, 23175), (235, 23190), (237, 23214), (259, 23424), (260, 23427), (275, 23532), (277, 23550), (286, 23580), (298, 23631), (307, 23688), (314, 23763), (315, 23772), (316, 23781), (317, 23787), (324, 23838), (328, 23871), (329, 23883), (332, 23904), (333, 23916), (336, 23949), (339, 23970), (356, 24102), (362, 24156), (385, 24363), (393, 24477), (395, 24489), (404, 24615), (407, 24633), (410, 24711), (419, 24900), (421, 24930), (431, 25128), (441, 25335), (442, 25338), (444, 25356), (461, 25605), (465, 25623), (466, 25635), (477, 25761), (494, 25917), (495, 25920), (502, 25962), (505, 25980), (506, 25995), (510, 26034),

Gene: Rofo\_33 Start: 25011, Stop: 29837, Start Num: 11

Candidate Starts for Rofo\_33:

(Start: 11 @25011 has 58 MA's), (26, 25185), (28, 25209), (57, 25347), (66, 25380), (69, 25392), (72, 25404), (76, 25422), (79, 25434), (84, 25479), (103, 25590), (115, 25710), (116, 25731), (119, 25791), (121, 25824), (124, 25866), (127, 25902), (131, 25938), (133, 25953), (134, 25956), (141, 26067), (142, 26103), (144, 26154), (147, 26196), (149, 26226), (153, 26277), (156, 26310), (157, 26343), (158, 26355), (166, 26436), (169, 26457), (172, 26469), (181, 26565), (182, 26580), (183, 26601), (184, 26652), (186, 26661), (191, 26739), (198, 26787), (199, 26796), (203, 26856), (209, 26901), (212, 26910), (220, 26937), (224, 26964), (226, 26985), (229, 27021), (236, 27087), (238, 27123), (243, 27210), (244, 27213), (245, 27222), (248, 27240), (258, 27291), (261, 27297), (279, 27423), (297, 27498), (301, 27525), (307, 27558), (313, 27621), (320, 27675), (326, 27738), (341, 27849), (347, 27876), (348, 27882), (358, 27984), (360, 27996), (365, 28050), (368, 28077), (372, 28104), (376, 28143), (384, 28209), (389, 28281), (390, 28290), (394, 28350), (397, 28395), (416, 28713), (417, 28719), (418, 28737), (425, 28833), (429, 28938), (435, 29037), (447, 29181), (450, 29256), (453, 29268), (458, 29352), (493, 29691), (499, 29730), (500, 29736), (503, 29742), (506, 29769), (511, 29805), (512, 29817),

Gene: RogerDodger\_32 Start: 20284, Stop: 25797, Start Num: 1

Candidate Starts for RogerDodger\_32:

(Start: 1 @20284 has 29 MA's), (3, 20371), (4, 20458), (6, 20491), (7, 20515), (Start: 12 @20638 has 7 MA's), (13, 20659), (14, 20665), (15, 20689), (19, 20719), (25, 20758), (32, 20842), (40, 20878), (43, 20902), (48, 20941), (100, 21331), (116, 21499), (119, 21559), (124, 21631), (125, 21643), (128, 21679), (130, 21703), (138, 21802), (139, 21805), (141, 21835), (143, 21910), (144, 21922), (147, 21964), (149, 21994), (153, 22045), (165, 22186), (166, 22204), (167, 22216), (169, 22225), (180, 22327), (182, 22348), (183, 22369), (184, 22420), (185, 22423), (186, 22429), (191, 22507), (195,



22537), (198, 22555), (203, 22624), (206, 22657), (208, 22663), (210, 22672), (213, 22678), (224, 22732), (227, 22777), (230, 22804), (231, 22813), (233, 22834), (238, 22891), (240, 22927), (248, 23008), (250, 23011), (256, 23080), (267, 23152), (276, 23248), (284, 23314), (285, 23317), (289, 23341), (293, 23368), (294, 23371), (295, 23374), (296, 23380), (304, 23449), (306, 23458), (310, 23503), (311, 23512), (322, 23590), (327, 23644), (334, 23698), (340, 23755), (350, 23797), (354, 23833), (358, 23896), (364, 23947), (373, 24031), (377, 24058), (383, 24097), (384, 24118), (387, 24178), (400, 24352), (401, 24355), (404, 24388), (414, 24595), (416, 24604), (417, 24610), (424, 24724), (428, 24844), (437, 25024), (451, 25249), (463, 25399), (473, 25510), (480, 25555), (481, 25564), (487, 25606), (497, 25705), (498, 25711), (505, 25741), (507, 25774), (509, 25786),

Gene: Salvador\_29 Start: 19390, Stop: 24921, Start Num: 1

Candidate Starts for Salvador\_29:

(Start: 1 @19390 has 29 MA's), (3, 19477), (4, 19564), (6, 19597), (7, 19621), (Start: 12 @19744 has 7 MA's), (13, 19765), (14, 19771), (15, 19795), (19, 19825), (25, 19864), (32, 19948), (40, 19984), (43, 20008), (48, 20047), (100, 20437), (116, 20605), (119, 20665), (124, 20737), (125, 20749), (128, 20785), (130, 20809), (138, 20908), (139, 20911), (141, 20941), (143, 21016), (144, 21028), (147, 21070), (149, 21100), (153, 21151), (165, 21292), (166, 21310), (167, 21322), (169, 21331), (180, 21433), (182, 21454), (183, 21475), (184, 21526), (185, 21529), (186, 21535), (191, 21613), (195, 21643), (198, 21661), (203, 21730), (206, 21763), (208, 21769), (210, 21778), (213, 21784), (224, 21838), (227, 21883), (230, 21910), (231, 21919), (233, 21940), (238, 21997), (240, 22033), (248, 22114), (250, 22117), (256, 22186), (267, 22258), (276, 22354), (284, 22420), (285, 22423), (289, 22447), (293, 22474), (294, 22477), (295, 22480), (296, 22486), (304, 22555), (306, 22564), (310, 22609), (311, 22618), (322, 22696), (327, 22750), (334, 22804), (340, 22861), (350, 22903), (354, 22939), (358, 23002), (364, 23053), (377, 23164), (383, 23203), (387, 23284), (400, 23458), (401, 23461), (404, 23494), (414, 23701), (416, 23710), (417, 23716), (433, 24028), (446, 24235), (451, 24373), (463, 24523), (473, 24634), (480, 24679), (481, 24688), (482, 24694), (487, 24730), (496, 24823), (498, 24835), (505, 24865), (507, 24898), (509, 24910),

Gene: Sampson\_33 Start: 24795, Stop: 29720, Start Num: 11

Candidate Starts for Sampson\_33:

(Start: 11 @24795 has 58 MA's), (21, 24915), (22, 24927), (26, 24969), (28, 24993), (36, 25059), (37, 25068), (42, 25113), (44, 25140), (53, 25242), (55, 25251), (58, 25269), (68, 25335), (71, 25350), (74, 25359), (81, 25422), (83, 25428), (88, 25455), (92, 25485), (94, 25494), (101, 25542), (103, 25557), (105, 25569), (111, 25656), (114, 25668), (121, 25791), (123, 25815), (124, 25833), (131, 25905), (132, 25911), (134, 25923), (141, 26034), (142, 26070), (143, 26109), (144, 26121), (147, 26163), (149, 26193), (152, 26235), (153, 26244), (154, 26247), (156, 26277), (157, 26310), (166, 26403), (173, 26439), (177, 26496), (180, 26526), (183, 26568), (185, 26622), (186, 26628), (188, 26655), (191, 26706), (197, 26742), (198, 26754), (199, 26763), (203, 26823), (204, 26835), (206, 26856), (208, 26862), (220, 26904), (221, 26910), (223, 26925), (224, 26931), (227, 26976), (231, 27012), (232, 27015), (238, 27090), (242, 27153), (250, 27210), (263, 27291), (270, 27342), (288, 27399), (297, 27420), (298, 27423), (301, 27447), (318, 27585), (322, 27606), (349, 27813), (352, 27831), (355, 27888), (365, 27978), (370, 28041), (382, 28122), (384, 28149), (389, 28221), (390, 28230), (394, 28290), (402, 28401), (414, 28632), (416, 28641), (419, 28668), (422, 28710), (432, 28929), (433, 28956), (436, 29028), (437, 29067), (452, 29274), (457, 29346), (464, 29412), (475, 29547), (485, 29610), (486, 29613), (488, 29631), (489, 29646), (491, 29673), (492, 29685),

Gene: Sanjuju\_31 Start: 25192, Stop: 30006, Start Num: 11

Candidate Starts for Sanjuju\_31:

(Start: 11 @25192 has 58 MA's), (26, 25366), (28, 25390), (57, 25528), (69, 25573), (72, 25585), (76, 25603), (79, 25615), (80, 25642), (84, 25660), (87, 25672), (103, 25771), (115, 25891), (116, 25912), (119, 25972), (121, 26005), (124, 26047), (127, 26083), (131, 26119), (133, 26134), (134, 26137), (141, 26248), (142, 26284), (144, 26335), (147, 26377), (149, 26407), (153, 26458), (156, 26491), (157, 26524), (158, 26536), (166, 26617), (169, 26638), (172, 26650), (181, 26746), (182, 26761),

(183, 26782), (184, 26833), (186, 26842), (191, 26920), (198, 26968), (199, 26977), (203, 27037), (209, 27082), (212, 27091), (220, 27118), (224, 27145), (226, 27166), (229, 27202), (236, 27268), (238, 27304), (243, 27391), (244, 27394), (248, 27421), (258, 27472), (261, 27478), (279, 27604), (301, 27706), (307, 27739), (313, 27802), (320, 27856), (326, 27919), (341, 28030), (347, 28057), (348, 28063), (358, 28165), (365, 28231), (368, 28258), (372, 28285), (376, 28324), (379, 28348), (384, 28390), (389, 28462), (390, 28471), (394, 28531), (397, 28576), (416, 28891), (417, 28897), (418, 28915), (425, 29011), (429, 29116), (435, 29215), (447, 29359), (450, 29434), (453, 29446), (458, 29521), (493, 29860), (499, 29899), (500, 29905), (503, 29911), (506, 29938), (511, 29974), (512, 29986),

Gene: Saronaya\_32 Start: 23650, Stop: 28665, Start Num: 11

Candidate Starts for Saronaya\_32:

(Start: 11 @23650 has 58 MA's), (17, 23737), (21, 23770), (26, 23824), (28, 23848), (31, 23890), (33, 23908), (37, 23923), (44, 23995), (48, 24022), (53, 24097), (55, 24106), (62, 24163), (63, 24181), (64, 24187), (67, 24205), (73, 24232), (103, 24439), (105, 24451), (108, 24499), (119, 24640), (121, 24673), (124, 24715), (131, 24787), (133, 24802), (134, 24805), (141, 24916), (142, 24952), (144, 25003), (147, 25045), (149, 25075), (151, 25105), (156, 25159), (157, 25192), (166, 25285), (172, 25318), (173, 25321), (177, 25378), (181, 25414), (182, 25429), (183, 25450), (184, 25501), (198, 25636), (199, 25645), (206, 25738), (208, 25744), (209, 25750), (212, 25759), (217, 25771), (219, 25783), (222, 25795), (224, 25813), (229, 25870), (238, 25972), (244, 26062), (250, 26092), (258, 26140), (261, 26146), (278, 26269), (279, 26272), (291, 26335), (297, 26347), (299, 26368), (301, 26374), (307, 26407), (313, 26470), (320, 26524), (341, 26698), (347, 26725), (348, 26731), (358, 26833), (365, 26899), (382, 27031), (384, 27058), (390, 27139), (394, 27199), (397, 27244), (414, 27550), (416, 27559), (419, 27586), (423, 27655), (429, 27784), (435, 27883), (447, 28027), (450, 28096), (451, 28102), (453, 28108), (458, 28183), (460, 28213), (469, 28318), (473, 28351), (482, 28411), (487, 28447), (490, 28492), (493, 28519), (499, 28558), (500, 28564), (503, 28570), (506, 28597), (511, 28633), (512, 28645),

Gene: Savbucketdawg\_29 Start: 19171, Stop: 24702, Start Num: 1

Candidate Starts for Savbucketdawg\_29:

(Start: 1 @19171 has 29 MA's), (3, 19258), (4, 19345), (6, 19378), (7, 19402), (Start: 12 @19525 has 7 MA's), (13, 19546), (14, 19552), (15, 19576), (19, 19606), (25, 19645), (32, 19729), (40, 19765), (43, 19789), (48, 19828), (100, 20218), (116, 20386), (119, 20446), (124, 20518), (125, 20530), (128, 20566), (130, 20590), (138, 20689), (139, 20692), (141, 20722), (143, 20797), (144, 20809), (147, 20851), (149, 20881), (153, 20932), (165, 21073), (166, 21091), (167, 21103), (169, 21112), (180, 21214), (182, 21235), (183, 21256), (184, 21307), (185, 21310), (186, 21316), (191, 21394), (195, 21424), (198, 21442), (203, 21511), (206, 21544), (208, 21550), (210, 21559), (213, 21565), (224, 21619), (227, 21664), (230, 21691), (231, 21700), (233, 21721), (238, 21778), (240, 21814), (248, 21895), (250, 21898), (256, 21967), (267, 22039), (276, 22135), (284, 22201), (285, 22204), (289, 22228), (293, 22255), (294, 22258), (295, 22261), (296, 22267), (304, 22336), (306, 22345), (310, 22390), (311, 22399), (322, 22477), (327, 22531), (334, 22585), (340, 22642), (350, 22684), (354, 22720), (358, 22783), (364, 22834), (377, 22945), (383, 22984), (387, 23065), (400, 23239), (401, 23242), (404, 23275), (414, 23482), (416, 23491), (417, 23497), (433, 23809), (446, 24016), (451, 24154), (463, 24304), (473, 24415), (480, 24460), (481, 24469), (487, 24511), (496, 24604), (498, 24616), (505, 24646), (507, 24679), (509, 24691),

Gene: SchottB\_31 Start: 24662, Stop: 29680, Start Num: 11

Candidate Starts for SchottB\_31:

(Start: 11 @24662 has 58 MA's), (17, 24749), (21, 24782), (26, 24836), (28, 24860), (31, 24902), (33, 24920), (37, 24935), (44, 25007), (48, 25034), (53, 25109), (55, 25118), (62, 25175), (63, 25193), (64, 25199), (103, 25451), (108, 25511), (119, 25652), (121, 25685), (124, 25727), (131, 25799), (133, 25814), (134, 25817), (141, 25928), (142, 25964), (144, 26015), (147, 26057), (149, 26087), (153, 26138), (156, 26171), (157, 26204), (158, 26216), (166, 26297), (172, 26330), (173, 26333), (177,

26390), (181, 26426), (182, 26441), (183, 26462), (184, 26513), (198, 26648), (199, 26657), (206, 26750), (208, 26756), (209, 26762), (212, 26771), (217, 26783), (219, 26795), (222, 26807), (224, 26825), (229, 26882), (238, 26984), (239, 27002), (241, 27026), (244, 27074), (250, 27104), (258, 27152), (261, 27158), (278, 27281), (279, 27284), (280, 27290), (291, 27347), (297, 27359), (299, 27380), (301, 27386), (307, 27419), (313, 27482), (320, 27536), (341, 27710), (347, 27737), (348, 27743), (358, 27845), (365, 27911), (384, 28070), (390, 28151), (394, 28211), (397, 28256), (414, 28562), (416, 28571), (419, 28598), (423, 28667), (429, 28796), (435, 28895), (447, 29039), (450, 29111), (451, 29117), (453, 29123), (458, 29198), (460, 29228), (473, 29366), (482, 29426), (487, 29462), (490, 29507), (493, 29534), (499, 29573), (500, 29579), (503, 29585), (506, 29612), (511, 29648), (512, 29660),

Gene: Scioto\_33 Start: 24850, Stop: 29775, Start Num: 11

Candidate Starts for Scioto\_33:

(Start: 11 @24850 has 58 MA's), (21, 24970), (22, 24982), (26, 25024), (28, 25048), (36, 25114), (37, 25123), (42, 25168), (44, 25195), (53, 25297), (55, 25306), (58, 25324), (68, 25390), (71, 25405), (74, 25414), (81, 25477), (83, 25483), (88, 25510), (92, 25540), (94, 25549), (101, 25597), (103, 25612), (105, 25624), (111, 25711), (114, 25723), (121, 25846), (123, 25870), (124, 25888), (131, 25960), (132, 25966), (134, 25978), (141, 26089), (142, 26125), (143, 26164), (144, 26176), (147, 26218), (149, 26248), (152, 26290), (153, 26299), (154, 26302), (156, 26332), (157, 26365), (166, 26458), (173, 26494), (177, 26551), (180, 26581), (183, 26623), (185, 26677), (186, 26683), (188, 26710), (191, 26761), (197, 26797), (198, 26809), (199, 26818), (203, 26878), (204, 26890), (206, 26911), (208, 26917), (220, 26959), (221, 26965), (223, 26980), (224, 26986), (227, 27031), (231, 27067), (232, 27070), (238, 27145), (242, 27208), (250, 27265), (263, 27346), (270, 27397), (288, 27454), (297, 27475), (298, 27478), (301, 27502), (318, 27640), (322, 27661), (349, 27868), (352, 27886), (355, 27943), (365, 28033), (370, 28096), (382, 28177), (384, 28204), (389, 28276), (390, 28285), (394, 28345), (402, 28456), (414, 28687), (416, 28696), (419, 28723), (422, 28765), (432, 28984), (433, 29011), (436, 29083), (437, 29122), (452, 29329), (457, 29401), (464, 29467), (475, 29602), (485, 29665), (486, 29668), (488, 29686), (489, 29701), (491, 29728), (492, 29740),

Gene: Sedona\_33 Start: 26117, Stop: 30943, Start Num: 11

Candidate Starts for Sedona\_33:

(Start: 11 @26117 has 58 MA's), (26, 26291), (28, 26315), (57, 26453), (69, 26498), (72, 26510), (76, 26528), (79, 26540), (80, 26567), (84, 26585), (87, 26597), (103, 26696), (115, 26816), (116, 26837), (119, 26897), (121, 26930), (124, 26972), (127, 27008), (131, 27044), (133, 27059), (134, 27062), (141, 27173), (142, 27209), (144, 27260), (147, 27302), (149, 27332), (153, 27383), (156, 27416), (157, 27449), (158, 27461), (166, 27542), (169, 27563), (172, 27575), (181, 27671), (182, 27686), (183, 27707), (184, 27758), (186, 27767), (191, 27845), (198, 27893), (199, 27902), (203, 27962), (209, 28007), (212, 28016), (220, 28043), (224, 28070), (226, 28091), (229, 28127), (236, 28193), (238, 28229), (243, 28316), (244, 28319), (245, 28328), (248, 28346), (258, 28397), (261, 28403), (279, 28529), (301, 28631), (307, 28664), (313, 28727), (320, 28781), (326, 28844), (341, 28955), (347, 28982), (348, 28988), (358, 29090), (365, 29156), (368, 29183), (372, 29210), (376, 29249), (379, 29273), (384, 29315), (389, 29387), (394, 29456), (397, 29501), (416, 29819), (417, 29825), (418, 29843), (425, 29939), (435, 30143), (447, 30287), (450, 30362), (453, 30374), (458, 30458), (493, 30797), (499, 30836), (500, 30842), (503, 30848), (506, 30875), (511, 30911), (512, 30923),

Gene: Shinji\_29 Start: 19375, Stop: 24897, Start Num: 1

Candidate Starts for Shinji\_29:

(Start: 1 @19375 has 29 MA's), (3, 19462), (4, 19549), (6, 19582), (7, 19606), (Start: 12 @19729 has 7 MA's), (13, 19750), (14, 19756), (15, 19780), (19, 19810), (25, 19849), (32, 19933), (40, 19969), (43, 19993), (48, 20032), (100, 20422), (116, 20590), (119, 20650), (124, 20722), (125, 20734), (128, 20770), (130, 20794), (138, 20893), (139, 20896), (141, 20926), (143, 21001), (144, 21013), (147, 21055), (149, 21085), (153, 21136), (165, 21277), (166, 21295), (167, 21307), (169, 21316), (180, 21418), (182, 21439), (183, 21460), (184, 21511), (185, 21514), (191, 21598), (195, 21628), (198,

21646), (203, 21715), (206, 21748), (208, 21754), (210, 21763), (213, 21769), (224, 21823), (230, 21895), (231, 21904), (233, 21925), (238, 21982), (240, 22018), (248, 22099), (250, 22102), (256, 22171), (276, 22339), (284, 22405), (285, 22408), (289, 22432), (293, 22459), (294, 22462), (295, 22465), (296, 22471), (304, 22540), (306, 22549), (310, 22594), (311, 22603), (322, 22681), (327, 22735), (334, 22789), (340, 22846), (350, 22888), (354, 22924), (358, 22987), (364, 23038), (377, 23149), (383, 23188), (387, 23269), (400, 23443), (401, 23446), (404, 23479), (414, 23686), (416, 23695), (417, 23701), (419, 23722), (433, 24016), (446, 24223), (451, 24349), (463, 24499), (473, 24610), (480, 24655), (481, 24664), (482, 24670), (487, 24706), (496, 24799), (498, 24811), (505, 24841), (507, 24874), (509, 24886),

Gene: Shivanishola\_34 Start: 25088, Stop: 29905, Start Num: 11

Candidate Starts for Shivanishola\_34:

(Start: 11 @25088 has 58 MA's), (26, 25262), (30, 25295), (57, 25424), (66, 25457), (69, 25469), (72, 25481), (79, 25511), (80, 25538), (84, 25556), (103, 25667), (115, 25787), (116, 25808), (119, 25868), (121, 25901), (124, 25943), (127, 25979), (131, 26015), (133, 26030), (134, 26033), (141, 26144), (142, 26180), (144, 26231), (147, 26273), (149, 26303), (153, 26354), (156, 26387), (157, 26420), (158, 26432), (166, 26513), (169, 26534), (172, 26546), (181, 26642), (182, 26657), (183, 26678), (184, 26729), (186, 26738), (191, 26816), (198, 26864), (199, 26873), (203, 26933), (209, 26978), (212, 26987), (220, 27014), (224, 27041), (226, 27062), (229, 27098), (236, 27164), (238, 27200), (243, 27287), (244, 27290), (245, 27299), (248, 27317), (258, 27368), (261, 27374), (279, 27500), (301, 27602), (307, 27635), (313, 27698), (320, 27752), (326, 27815), (341, 27926), (347, 27953), (348, 27959), (358, 28061), (360, 28073), (365, 28127), (368, 28154), (372, 28181), (376, 28220), (384, 28286), (389, 28358), (390, 28367), (394, 28427), (397, 28472), (416, 28787), (417, 28793), (418, 28811), (425, 28907), (435, 29111), (447, 29255), (450, 29324), (458, 29420), (493, 29759), (499, 29798), (500, 29804), (503, 29810), (506, 29837), (511, 29873), (512, 29885),

Gene: Sitar\_33 Start: 26184, Stop: 30995, Start Num: 11

Candidate Starts for Sitar\_33:

(Start: 11 @26184 has 58 MA's), (26, 26358), (28, 26382), (57, 26520), (67, 26559), (69, 26565), (72, 26577), (76, 26595), (79, 26607), (80, 26634), (84, 26652), (87, 26664), (103, 26763), (115, 26883), (116, 26904), (119, 26964), (121, 26997), (124, 27039), (127, 27075), (131, 27111), (133, 27126), (134, 27129), (141, 27240), (142, 27276), (144, 27327), (147, 27369), (149, 27399), (153, 27450), (156, 27483), (157, 27516), (158, 27528), (166, 27609), (169, 27630), (172, 27642), (181, 27738), (182, 27753), (183, 27774), (184, 27825), (186, 27834), (191, 27912), (198, 27960), (199, 27969), (203, 28029), (208, 28068), (209, 28074), (212, 28083), (220, 28110), (224, 28137), (226, 28158), (229, 28194), (236, 28260), (238, 28296), (243, 28383), (244, 28386), (248, 28413), (258, 28464), (261, 28470), (279, 28596), (301, 28698), (307, 28731), (313, 28794), (320, 28848), (326, 28911), (341, 29022), (347, 29049), (348, 29055), (358, 29157), (360, 29169), (365, 29223), (368, 29250), (372, 29277), (376, 29316), (379, 29340), (384, 29382), (389, 29454), (390, 29463), (394, 29523), (397, 29568), (416, 29883), (417, 29889), (418, 29907), (425, 30003), (429, 30108), (435, 30207), (447, 30351), (450, 30414), (453, 30426), (458, 30510), (493, 30849), (499, 30888), (500, 30894), (503, 30900), (506, 30927), (511, 30963), (512, 30975),

Gene: SmokingBunny\_29 Start: 19390, Stop: 24912, Start Num: 1

Candidate Starts for SmokingBunny\_29:

(Start: 1 @19390 has 29 MA's), (3, 19477), (4, 19564), (6, 19597), (7, 19621), (Start: 12 @19744 has 7 MA's), (13, 19765), (14, 19771), (15, 19795), (19, 19825), (25, 19864), (32, 19948), (40, 19984), (43, 20008), (48, 20047), (100, 20437), (116, 20605), (119, 20665), (124, 20737), (125, 20749), (128, 20785), (130, 20809), (138, 20908), (139, 20911), (141, 20941), (143, 21016), (144, 21028), (147, 21070), (149, 21100), (153, 21151), (165, 21292), (166, 21310), (167, 21322), (169, 21331), (180, 21433), (182, 21454), (183, 21475), (184, 21526), (185, 21529), (191, 21613), (195, 21643), (198, 21661), (203, 21730), (206, 21763), (208, 21769), (210, 21778), (213, 21784), (224, 21838), (230, 21910), (231, 21919), (233, 21940), (238, 21997), (240, 22033), (248, 22114), (250, 22117), (256,

22186), (276, 22354), (284, 22420), (285, 22423), (289, 22447), (293, 22474), (294, 22477), (295, 22480), (296, 22486), (304, 22555), (306, 22564), (310, 22609), (311, 22618), (322, 22696), (327, 22750), (334, 22804), (340, 22861), (350, 22903), (354, 22939), (358, 23002), (364, 23053), (377, 23164), (383, 23203), (387, 23284), (400, 23458), (401, 23461), (404, 23494), (414, 23701), (416, 23710), (417, 23716), (419, 23737), (433, 24031), (446, 24238), (451, 24364), (463, 24514), (473, 24625), (480, 24670), (481, 24679), (482, 24685), (487, 24721), (496, 24814), (498, 24826), (505, 24856), (507, 24889), (509, 24901),

Gene: StorminNorm\_32 Start: 23529, Stop: 28547, Start Num: 11

Candidate Starts for StorminNorm\_32:

(Start: 11 @23529 has 58 MA's), (17, 23616), (21, 23649), (26, 23703), (28, 23727), (31, 23769), (33, 23787), (37, 23802), (44, 23874), (48, 23901), (53, 23976), (55, 23985), (62, 24042), (63, 24060), (64, 24066), (103, 24318), (108, 24378), (119, 24519), (121, 24552), (124, 24594), (131, 24666), (133, 24681), (134, 24684), (141, 24795), (142, 24831), (144, 24882), (147, 24924), (149, 24954), (153, 25005), (156, 25038), (157, 25071), (158, 25083), (166, 25164), (172, 25197), (173, 25200), (177, 25257), (181, 25293), (182, 25308), (183, 25329), (184, 25380), (198, 25515), (199, 25524), (206, 25617), (208, 25623), (209, 25629), (212, 25638), (219, 25662), (222, 25674), (224, 25692), (229, 25749), (238, 25851), (244, 25941), (250, 25971), (258, 26019), (261, 26025), (278, 26148), (279, 26151), (280, 26157), (291, 26214), (297, 26226), (299, 26247), (301, 26253), (307, 26286), (313, 26349), (320, 26403), (326, 26466), (341, 26577), (347, 26604), (348, 26610), (358, 26712), (365, 26778), (382, 26910), (384, 26937), (390, 27018), (394, 27078), (397, 27123), (414, 27429), (416, 27438), (419, 27465), (423, 27534), (429, 27663), (435, 27762), (447, 27906), (450, 27978), (451, 27984), (453, 27990), (458, 28065), (460, 28095), (473, 28233), (482, 28293), (487, 28329), (490, 28374), (493, 28401), (499, 28440), (500, 28446), (503, 28452), (506, 28479), (511, 28515), (512, 28527),

Gene: Stultus\_31 Start: 24099, Stop: 28922, Start Num: 11

Candidate Starts for Stultus\_31:

(Start: 11 @24099 has 58 MA's), (26, 24273), (28, 24297), (57, 24435), (67, 24474), (69, 24480), (72, 24492), (76, 24510), (79, 24522), (80, 24549), (84, 24567), (87, 24579), (103, 24678), (116, 24819), (119, 24879), (121, 24912), (124, 24954), (127, 24990), (131, 25026), (133, 25041), (134, 25044), (141, 25155), (142, 25191), (144, 25242), (147, 25284), (149, 25314), (153, 25365), (156, 25398), (157, 25431), (158, 25443), (166, 25524), (169, 25545), (172, 25557), (181, 25653), (182, 25668), (183, 25689), (184, 25740), (186, 25749), (191, 25827), (198, 25875), (199, 25884), (203, 25944), (209, 25989), (212, 25998), (220, 26025), (224, 26052), (226, 26073), (229, 26109), (236, 26175), (238, 26211), (243, 26298), (244, 26301), (245, 26310), (248, 26328), (258, 26379), (261, 26385), (279, 26511), (297, 26586), (301, 26613), (307, 26646), (313, 26709), (320, 26763), (326, 26826), (341, 26937), (347, 26964), (348, 26970), (358, 27072), (360, 27084), (365, 27138), (368, 27165), (372, 27192), (376, 27231), (379, 27255), (384, 27297), (389, 27369), (390, 27378), (394, 27438), (397, 27483), (416, 27798), (417, 27804), (418, 27822), (425, 27918), (429, 28023), (435, 28122), (447, 28266), (450, 28341), (453, 28353), (458, 28437), (493, 28776), (499, 28815), (500, 28821), (503, 28827), (506, 28854), (511, 28890), (512, 28902),

Gene: Tangent\_33 Start: 24533, Stop: 29359, Start Num: 11

Candidate Starts for Tangent\_33:

(Start: 11 @24533 has 58 MA's), (26, 24707), (28, 24731), (57, 24869), (66, 24902), (69, 24914), (72, 24926), (76, 24944), (79, 24956), (84, 25001), (103, 25112), (115, 25232), (116, 25253), (119, 25313), (121, 25346), (124, 25388), (127, 25424), (131, 25460), (133, 25475), (134, 25478), (141, 25589), (142, 25625), (144, 25676), (147, 25718), (149, 25748), (153, 25799), (156, 25832), (157, 25865), (158, 25877), (166, 25958), (172, 25991), (181, 26087), (182, 26102), (183, 26123), (184, 26174), (186, 26183), (191, 26261), (198, 26309), (199, 26318), (203, 26378), (208, 26417), (209, 26423), (212, 26432), (220, 26459), (224, 26486), (226, 26507), (229, 26543), (236, 26609), (237, 26630), (238, 26645), (243, 26732), (244, 26735), (258, 26813), (269, 26873), (279, 26945), (301, 27047),

(307, 27080), (313, 27143), (320, 27197), (326, 27260), (341, 27371), (347, 27398), (348, 27404), (358, 27506), (360, 27518), (365, 27572), (368, 27599), (372, 27626), (376, 27665), (379, 27689), (382, 27704), (384, 27731), (389, 27803), (390, 27812), (394, 27872), (397, 27917), (412, 28106), (416, 28235), (417, 28241), (418, 28259), (425, 28355), (429, 28460), (435, 28559), (447, 28703), (450, 28778), (453, 28790), (458, 28874), (493, 29213), (499, 29252), (500, 29258), (503, 29264), (506, 29291), (511, 29327), (512, 29339),

Gene: Tangerine\_32 Start: 23535, Stop: 28550, Start Num: 11

Candidate Starts for Tangerine\_32:

(Start: 11 @23535 has 58 MA's), (17, 23622), (21, 23655), (26, 23709), (28, 23733), (31, 23775), (33, 23793), (37, 23808), (44, 23880), (48, 23907), (53, 23982), (55, 23991), (62, 24048), (63, 24066), (64, 24072), (67, 24090), (73, 24117), (103, 24324), (105, 24336), (108, 24384), (119, 24525), (121, 24558), (124, 24600), (131, 24672), (133, 24687), (134, 24690), (141, 24801), (142, 24837), (144, 24888), (147, 24930), (149, 24960), (151, 24990), (156, 25044), (157, 25077), (166, 25170), (172, 25203), (173, 25206), (177, 25263), (181, 25299), (182, 25314), (183, 25335), (184, 25386), (198, 25521), (199, 25530), (206, 25623), (208, 25629), (209, 25635), (212, 25644), (219, 25668), (222, 25680), (224, 25698), (229, 25755), (238, 25857), (244, 25947), (250, 25977), (258, 26025), (261, 26031), (278, 26154), (279, 26157), (291, 26220), (297, 26232), (299, 26253), (301, 26259), (307, 26292), (313, 26355), (320, 26409), (341, 26583), (347, 26610), (348, 26616), (358, 26718), (365, 26784), (382, 26916), (384, 26943), (390, 27024), (394, 27084), (397, 27129), (414, 27435), (416, 27444), (419, 27471), (423, 27540), (429, 27669), (435, 27768), (447, 27912), (450, 27981), (451, 27987), (453, 27993), (458, 28068), (460, 28098), (473, 28236), (482, 28296), (487, 28332), (490, 28377), (493, 28404), (499, 28443), (500, 28449), (503, 28455), (506, 28482), (511, 28518), (512, 28530),

Gene: Tardus\_34 Start: 24199, Stop: 29124, Start Num: 11

Candidate Starts for Tardus\_34:

(Start: 11 @24199 has 58 MA's), (21, 24319), (22, 24331), (26, 24373), (28, 24397), (30, 24406), (36, 24463), (37, 24472), (44, 24544), (49, 24577), (53, 24646), (55, 24655), (58, 24673), (71, 24754), (74, 24763), (81, 24826), (83, 24832), (88, 24859), (92, 24889), (94, 24898), (103, 24961), (105, 24973), (107, 25006), (111, 25060), (114, 25072), (118, 25114), (121, 25195), (123, 25219), (124, 25237), (125, 25249), (131, 25309), (134, 25327), (141, 25438), (142, 25474), (143, 25513), (144, 25525), (147, 25567), (149, 25597), (156, 25681), (157, 25714), (166, 25807), (169, 25828), (173, 25843), (180, 25930), (183, 25972), (185, 26026), (188, 26059), (198, 26158), (199, 26167), (203, 26227), (204, 26239), (208, 26266), (220, 26308), (221, 26314), (223, 26329), (224, 26335), (231, 26416), (232, 26419), (234, 26440), (238, 26494), (242, 26557), (250, 26614), (264, 26701), (273, 26767), (297, 26824), (298, 26827), (301, 26851), (312, 26941), (318, 26989), (349, 27217), (352, 27235), (355, 27292), (365, 27382), (370, 27445), (382, 27526), (384, 27553), (389, 27625), (390, 27634), (394, 27694), (402, 27805), (414, 28033), (416, 28042), (419, 28069), (422, 28111), (424, 28171), (432, 28333), (433, 28360), (436, 28432), (437, 28471), (452, 28678), (457, 28750), (464, 28816), (475, 28951), (485, 29014), (486, 29017), (488, 29035), (489, 29050), (491, 29077), (492, 29089),

Gene: Thing3\_32 Start: 25026, Stop: 29843, Start Num: 11

Candidate Starts for Thing3\_32:

(Start: 11 @25026 has 58 MA's), (26, 25200), (28, 25224), (57, 25362), (69, 25407), (72, 25419), (76, 25437), (79, 25449), (80, 25476), (84, 25494), (87, 25506), (103, 25605), (115, 25725), (116, 25746), (119, 25806), (121, 25839), (124, 25881), (131, 25953), (133, 25968), (134, 25971), (141, 26082), (142, 26118), (144, 26169), (147, 26211), (149, 26241), (153, 26292), (156, 26325), (157, 26358), (158, 26370), (166, 26451), (169, 26472), (172, 26484), (181, 26580), (182, 26595), (183, 26616), (184, 26667), (186, 26676), (191, 26754), (198, 26802), (199, 26811), (203, 26871), (209, 26916), (212, 26925), (220, 26952), (224, 26979), (226, 27000), (229, 27036), (236, 27102), (238, 27138), (243, 27225), (244, 27228), (245, 27237), (248, 27255), (258, 27306), (261, 27312), (279, 27438), (297, 27513), (301, 27540), (307, 27573), (313, 27636), (320, 27690), (326, 27753), (341, 27864),

(347, 27891), (348, 27897), (358, 27999), (360, 28011), (365, 28065), (368, 28092), (372, 28119), (376, 28158), (379, 28182), (384, 28224), (389, 28296), (390, 28305), (394, 28365), (397, 28410), (416, 28728), (417, 28734), (418, 28752), (425, 28848), (429, 28953), (435, 29052), (447, 29196), (450, 29271), (453, 29283), (458, 29358), (476, 29553), (493, 29697), (499, 29736), (500, 29742), (503, 29748), (506, 29775), (511, 29811), (512, 29823),

Gene: Tiamoceli\_31 Start: 22285, Stop: 27402, Start Num: 11

Candidate Starts for Tiamoceli\_31:

(Start: 11 @22285 has 58 MA's), (21, 22405), (26, 22459), (29, 22492), (35, 22549), (37, 22558), (38, 22561), (44, 22630), (45, 22642), (48, 22657), (50, 22693), (53, 22732), (54, 22738), (56, 22744), (61, 22777), (66, 22819), (68, 22828), (70, 22837), (71, 22843), (83, 22921), (86, 22939), (92, 22978), (101, 23035), (103, 23050), (113, 23143), (124, 23314), (131, 23386), (134, 23404), (138, 23482), (141, 23515), (142, 23551), (143, 23590), (144, 23602), (149, 23674), (153, 23725), (155, 23746), (156, 23758), (160, 23809), (162, 23839), (169, 23905), (180, 24007), (183, 24049), (185, 24103), (187, 24133), (188, 24136), (191, 24187), (194, 24214), (198, 24235), (202, 24301), (206, 24337), (208, 24343), (219, 24382), (222, 24394), (223, 24406), (224, 24412), (226, 24433), (234, 24517), (235, 24532), (237, 24556), (247, 24691), (250, 24703), (259, 24766), (260, 24769), (275, 24874), (277, 24892), (286, 24922), (298, 24973), (307, 25030), (314, 25105), (315, 25114), (316, 25123), (317, 25129), (324, 25180), (328, 25213), (329, 25225), (332, 25246), (333, 25258), (336, 25291), (339, 25312), (356, 25444), (362, 25498), (385, 25705), (393, 25819), (395, 25831), (404, 25957), (407, 25975), (410, 26053), (419, 26242), (421, 26272), (426, 26443), (431, 26470), (441, 26677), (442, 26680), (444, 26698), (461, 26947), (465, 26965), (466, 26977), (477, 27094), (494, 27250), (495, 27253), (502, 27295), (505, 27313), (506, 27328), (510, 27367),

Gene: TillyBobJoe\_29 Start: 19189, Stop: 24723, Start Num: 1

Candidate Starts for TillyBobJoe\_29:

(Start: 1 @19189 has 29 MA's), (3, 19276), (4, 19363), (6, 19396), (7, 19420), (Start: 12 @19543 has 7 MA's), (13, 19564), (14, 19570), (15, 19594), (18, 19603), (19, 19624), (25, 19663), (32, 19747), (40, 19783), (43, 19807), (48, 19846), (100, 20236), (116, 20404), (119, 20464), (124, 20536), (125, 20548), (128, 20584), (130, 20608), (138, 20707), (139, 20710), (141, 20740), (143, 20815), (144, 20827), (147, 20869), (149, 20899), (153, 20950), (165, 21091), (166, 21109), (167, 21121), (169, 21130), (180, 21232), (182, 21253), (183, 21274), (184, 21325), (185, 21328), (186, 21334), (191, 21412), (195, 21442), (198, 21460), (203, 21529), (206, 21562), (208, 21568), (210, 21577), (213, 21583), (224, 21637), (230, 21709), (231, 21718), (233, 21739), (238, 21796), (240, 21832), (248, 21913), (250, 21916), (256, 21985), (267, 22057), (276, 22153), (284, 22219), (285, 22222), (289, 22246), (293, 22273), (294, 22276), (295, 22279), (296, 22285), (304, 22354), (306, 22363), (310, 22408), (311, 22417), (322, 22495), (335, 22624), (337, 22639), (343, 22681), (350, 22723), (353, 22741), (354, 22759), (358, 22822), (364, 22873), (377, 22984), (383, 23023), (387, 23104), (400, 23278), (401, 23281), (404, 23314), (406, 23329), (414, 23521), (416, 23530), (417, 23536), (424, 23650), (428, 23770), (437, 23950), (451, 24175), (463, 24325), (480, 24481), (481, 24490), (487, 24532), (497, 24631), (498, 24637), (505, 24667), (507, 24700), (509, 24712),

Gene: Togo\_29 Start: 19390, Stop: 24912, Start Num: 1

Candidate Starts for Togo\_29:

(Start: 1 @19390 has 29 MA's), (3, 19477), (4, 19564), (6, 19597), (7, 19621), (Start: 12 @19744 has 7 MA's), (13, 19765), (14, 19771), (15, 19795), (19, 19825), (25, 19864), (32, 19948), (40, 19984), (43, 20008), (48, 20047), (100, 20437), (116, 20605), (119, 20665), (124, 20737), (125, 20749), (128, 20785), (130, 20809), (138, 20908), (139, 20911), (141, 20941), (143, 21016), (144, 21028), (147, 21070), (149, 21100), (153, 21151), (165, 21292), (166, 21310), (167, 21322), (169, 21331), (180, 21433), (182, 21454), (183, 21475), (184, 21526), (185, 21529), (191, 21613), (195, 21643), (198, 21661), (203, 21730), (206, 21763), (208, 21769), (210, 21778), (213, 21784), (224, 21838), (230, 21910), (231, 21919), (233, 21940), (238, 21997), (240, 22033), (248, 22114), (250, 22117), (256, 22186), (276, 22354), (284, 22420), (285, 22423), (289, 22447), (293, 22474), (294, 22477), (295,

22480), (296, 22486), (304, 22555), (306, 22564), (310, 22609), (311, 22618), (322, 22696), (327, 22750), (334, 22804), (340, 22861), (350, 22903), (354, 22939), (358, 23002), (364, 23053), (377, 23164), (383, 23203), (387, 23284), (400, 23458), (401, 23461), (404, 23494), (414, 23701), (416, 23710), (417, 23716), (419, 23737), (433, 24031), (446, 24238), (451, 24364), (463, 24514), (473, 24625), (480, 24670), (481, 24679), (482, 24685), (487, 24721), (496, 24814), (498, 24826), (505, 24856), (507, 24889), (509, 24901),

Gene: Twister6\_31 Start: 19817, Stop: 25348, Start Num: 1

Candidate Starts for Twister6\_31:

(Start: 1 @19817 has 29 MA's), (3, 19904), (4, 19991), (6, 20024), (7, 20048), (Start: 12 @20171 has 7 MA's), (13, 20192), (14, 20198), (15, 20222), (19, 20252), (25, 20291), (32, 20375), (40, 20411), (43, 20435), (48, 20474), (100, 20864), (116, 21032), (119, 21092), (124, 21164), (125, 21176), (128, 21212), (130, 21236), (138, 21335), (139, 21338), (141, 21368), (143, 21443), (144, 21455), (147, 21497), (149, 21527), (153, 21578), (165, 21719), (166, 21737), (167, 21749), (169, 21758), (180, 21860), (182, 21881), (183, 21902), (184, 21953), (185, 21956), (186, 21962), (191, 22040), (195, 22070), (198, 22088), (203, 22157), (206, 22190), (208, 22196), (210, 22205), (213, 22211), (224, 22265), (227, 22310), (230, 22337), (231, 22346), (233, 22367), (238, 22424), (240, 22460), (248, 22541), (250, 22544), (256, 22613), (267, 22685), (276, 22781), (284, 22847), (285, 22850), (289, 22874), (293, 22901), (294, 22904), (295, 22907), (296, 22913), (304, 22982), (306, 22991), (310, 23036), (311, 23045), (322, 23123), (327, 23177), (334, 23231), (340, 23288), (350, 23330), (354, 23366), (358, 23429), (364, 23480), (377, 23591), (383, 23630), (387, 23711), (400, 23885), (401, 23888), (404, 23921), (414, 24128), (416, 24137), (417, 24143), (433, 24455), (446, 24662), (451, 24800), (463, 24950), (473, 25061), (480, 25106), (481, 25115), (482, 25121), (487, 25157), (496, 25250), (498, 25262), (505, 25292), (507, 25325), (509, 25337),

Gene: Twonlo\_28 Start: 20903, Stop: 26020, Start Num: 11

Candidate Starts for Twonlo\_28:

(Start: 11 @20903 has 58 MA's), (21, 21023), (26, 21077), (29, 21110), (35, 21167), (37, 21176), (38, 21179), (44, 21248), (45, 21260), (48, 21275), (50, 21311), (53, 21350), (54, 21356), (56, 21362), (61, 21395), (66, 21437), (68, 21446), (70, 21455), (71, 21461), (83, 21539), (86, 21557), (92, 21596), (101, 21653), (103, 21668), (113, 21761), (124, 21932), (131, 22004), (134, 22022), (138, 22100), (141, 22133), (142, 22169), (143, 22208), (144, 22220), (149, 22292), (153, 22343), (155, 22364), (156, 22376), (160, 22427), (162, 22457), (169, 22523), (180, 22625), (183, 22667), (185, 22721), (187, 22751), (188, 22754), (191, 22805), (194, 22832), (198, 22853), (202, 22919), (206, 22955), (208, 22961), (219, 23000), (222, 23012), (223, 23024), (224, 23030), (226, 23051), (234, 23135), (235, 23150), (237, 23174), (247, 23309), (250, 23321), (259, 23384), (260, 23387), (275, 23492), (277, 23510), (286, 23540), (298, 23591), (307, 23648), (314, 23723), (315, 23732), (316, 23741), (317, 23747), (324, 23798), (328, 23831), (329, 23843), (332, 23864), (333, 23876), (336, 23909), (339, 23930), (356, 24062), (362, 24116), (385, 24323), (393, 24437), (395, 24449), (404, 24575), (407, 24593), (410, 24671), (419, 24860), (421, 24890), (426, 25061), (431, 25088), (441, 25295), (442, 25298), (444, 25316), (461, 25565), (465, 25583), (466, 25595), (477, 25712), (494, 25868), (495, 25871), (502, 25913), (505, 25931), (506, 25946), (510, 25985),

Gene: Tycho\_32 Start: 23624, Stop: 28639, Start Num: 11

Candidate Starts for Tycho\_32:

(Start: 11 @23624 has 58 MA's), (17, 23711), (21, 23744), (26, 23798), (28, 23822), (31, 23864), (33, 23882), (37, 23897), (44, 23969), (48, 23996), (53, 24071), (55, 24080), (62, 24137), (63, 24155), (64, 24161), (103, 24413), (108, 24473), (119, 24614), (121, 24647), (124, 24689), (131, 24761), (133, 24776), (134, 24779), (141, 24890), (142, 24926), (144, 24977), (147, 25019), (149, 25049), (153, 25100), (156, 25133), (157, 25166), (158, 25178), (166, 25259), (172, 25292), (173, 25295), (177, 25352), (181, 25388), (182, 25403), (183, 25424), (184, 25475), (198, 25610), (199, 25619), (206, 25712), (208, 25718), (209, 25724), (212, 25733), (217, 25745), (219, 25757), (222, 25769), (224, 25787), (229, 25844), (238, 25946), (239, 25964), (241, 25988), (244, 26036), (250, 26066), (258,



26114), (261, 26120), (278, 26243), (279, 26246), (280, 26252), (291, 26309), (297, 26321), (299, 26342), (301, 26348), (307, 26381), (313, 26444), (320, 26498), (326, 26561), (341, 26672), (347, 26699), (348, 26705), (358, 26807), (365, 26873), (382, 27005), (384, 27032), (390, 27113), (394, 27173), (397, 27218), (414, 27524), (416, 27533), (419, 27560), (423, 27629), (429, 27758), (435, 27857), (447, 28001), (450, 28070), (451, 28076), (453, 28082), (458, 28157), (460, 28187), (473, 28325), (482, 28385), (487, 28421), (490, 28466), (493, 28493), (499, 28532), (500, 28538), (503, 28544), (506, 28571), (511, 28607), (512, 28619),

Gene: Valary\_32 Start: 20326, Stop: 25857, Start Num: 1

Candidate Starts for Valary\_32:

(Start: 1 @20326 has 29 MA's), (3, 20413), (4, 20500), (6, 20533), (Start: 12 @20680 has 7 MA's), (13, 20701), (14, 20707), (15, 20731), (19, 20761), (25, 20800), (32, 20884), (40, 20920), (43, 20944), (48, 20983), (100, 21373), (116, 21541), (119, 21601), (124, 21673), (125, 21685), (128, 21721), (130, 21745), (138, 21844), (139, 21847), (141, 21877), (143, 21952), (144, 21964), (147, 22006), (149, 22036), (153, 22087), (165, 22228), (166, 22246), (167, 22258), (169, 22267), (180, 22369), (182, 22390), (183, 22411), (184, 22462), (185, 22465), (191, 22549), (195, 22579), (198, 22597), (203, 22666), (206, 22699), (208, 22705), (210, 22714), (213, 22720), (224, 22774), (230, 22846), (231, 22855), (233, 22876), (238, 22933), (240, 22969), (248, 23050), (250, 23053), (256, 23122), (276, 23290), (284, 23356), (285, 23359), (289, 23383), (293, 23410), (294, 23413), (295, 23416), (296, 23422), (304, 23491), (306, 23500), (310, 23545), (311, 23554), (322, 23632), (327, 23686), (334, 23740), (340, 23797), (350, 23839), (354, 23875), (358, 23938), (364, 23989), (373, 24073), (377, 24100), (383, 24139), (384, 24160), (387, 24220), (400, 24394), (401, 24397), (404, 24430), (414, 24637), (416, 24646), (417, 24652), (433, 24964), (446, 25171), (451, 25309), (463, 25459), (473, 25570), (480, 25615), (481, 25624), (482, 25630), (487, 25666), (496, 25759), (498, 25771), (505, 25801), (507, 25834), (509, 25846),

Gene: VanDeWege\_32 Start: 20198, Stop: 25696, Start Num: 1

Candidate Starts for VanDeWege\_32:

(Start: 1 @20198 has 29 MA's), (3, 20285), (4, 20372), (6, 20405), (7, 20429), (Start: 12 @20552 has 7 MA's), (13, 20573), (14, 20579), (15, 20603), (19, 20633), (25, 20672), (32, 20756), (40, 20792), (43, 20816), (48, 20855), (100, 21245), (116, 21413), (119, 21473), (124, 21545), (125, 21557), (128, 21593), (130, 21617), (138, 21716), (139, 21719), (141, 21749), (143, 21824), (144, 21836), (147, 21878), (149, 21908), (153, 21959), (165, 22100), (166, 22118), (167, 22130), (169, 22139), (180, 22241), (182, 22262), (183, 22283), (184, 22334), (185, 22337), (186, 22343), (191, 22421), (195, 22451), (198, 22469), (203, 22538), (206, 22571), (208, 22577), (210, 22586), (213, 22592), (224, 22646), (227, 22691), (230, 22718), (231, 22727), (233, 22748), (238, 22805), (240, 22841), (248, 22922), (250, 22925), (256, 22994), (267, 23066), (276, 23162), (284, 23228), (285, 23231), (289, 23255), (293, 23282), (294, 23285), (295, 23288), (296, 23294), (304, 23363), (306, 23372), (310, 23417), (311, 23426), (322, 23504), (327, 23558), (334, 23612), (340, 23669), (350, 23711), (354, 23747), (358, 23810), (364, 23861), (366, 23891), (377, 23972), (383, 24011), (387, 24092), (391, 24134), (400, 24266), (401, 24269), (404, 24302), (416, 24518), (417, 24524), (424, 24638), (427, 24749), (436, 24911), (440, 24992), (445, 25019), (463, 25298), (473, 25409), (480, 25454), (481, 25463), (482, 25469), (487, 25505), (496, 25598), (498, 25610), (505, 25640), (507, 25673), (509, 25685),

Gene: Verity\_32 Start: 25053, Stop: 29963, Start Num: 11

Candidate Starts for Verity\_32:

(Start: 11 @25053 has 58 MA's), (21, 25173), (22, 25185), (25, 25206), (26, 25227), (28, 25251), (36, 25317), (37, 25326), (38, 25329), (49, 25431), (53, 25500), (55, 25509), (74, 25617), (78, 25638), (81, 25680), (83, 25686), (92, 25743), (94, 25752), (103, 25815), (111, 25914), (114, 25926), (118, 25968), (121, 26049), (123, 26073), (125, 26103), (129, 26160), (131, 26163), (132, 26169), (134, 26181), (137, 26253), (141, 26292), (142, 26328), (143, 26367), (144, 26379), (147, 26421), (149, 26451), (156, 26535), (157, 26568), (166, 26661), (169, 26682), (173, 26697), (180, 26784), (183, 26826),

(185, 26880), (186, 26886), (188, 26913), (197, 27000), (198, 27012), (199, 27021), (203, 27081), (204, 27093), (208, 27120), (220, 27162), (221, 27168), (223, 27183), (224, 27189), (227, 27234), (230, 27261), (231, 27270), (232, 27273), (242, 27411), (248, 27465), (250, 27468), (264, 27555), (288, 27657), (300, 27702), (301, 27705), (312, 27795), (349, 28071), (351, 28086), (352, 28089), (363, 28212), (365, 28236), (370, 28299), (381, 28356), (390, 28473), (392, 28515), (394, 28533), (402, 28644), (409, 28746), (415, 28878), (416, 28884), (417, 28890), (419, 28911), (422, 28953), (432, 29172), (433, 29199), (436, 29271), (437, 29310), (452, 29517), (456, 29583), (457, 29589), (464, 29655), (471, 29751), (475, 29790), (485, 29853), (486, 29856), (488, 29874), (489, 29889), (491, 29916), (492, 29928),

Gene: ViaConlectus\_33 Start: 23474, Stop: 28399, Start Num: 11

Candidate Starts for ViaConlectus\_33:

(Start: 11 @23474 has 58 MA's), (21, 23594), (22, 23606), (26, 23648), (28, 23672), (36, 23738), (37, 23747), (44, 23819), (49, 23852), (53, 23921), (55, 23930), (58, 23948), (68, 24014), (71, 24029), (74, 24038), (81, 24101), (83, 24107), (88, 24134), (92, 24164), (94, 24173), (103, 24236), (105, 24248), (111, 24335), (114, 24347), (121, 24470), (123, 24494), (124, 24512), (125, 24524), (131, 24584), (132, 24590), (134, 24602), (141, 24713), (142, 24749), (143, 24788), (144, 24800), (147, 24842), (149, 24872), (152, 24914), (153, 24923), (154, 24926), (156, 24956), (157, 24989), (166, 25082), (169, 25103), (173, 25118), (180, 25205), (182, 25226), (183, 25247), (185, 25301), (188, 25334), (191, 25385), (198, 25433), (199, 25442), (203, 25502), (204, 25514), (206, 25535), (208, 25541), (220, 25583), (221, 25589), (223, 25604), (224, 25610), (231, 25691), (232, 25694), (234, 25715), (238, 25769), (242, 25832), (250, 25889), (264, 25976), (273, 26042), (297, 26099), (298, 26102), (301, 26126), (312, 26216), (318, 26264), (349, 26492), (352, 26510), (355, 26567), (365, 26657), (370, 26720), (382, 26801), (384, 26828), (389, 26900), (390, 26909), (394, 26969), (402, 27080), (414, 27311), (416, 27320), (419, 27347), (422, 27389), (424, 27446), (432, 27608), (433, 27635), (436, 27707), (437, 27746), (452, 27953), (457, 28025), (464, 28091), (475, 28226), (485, 28289), (486, 28292), (488, 28310), (489, 28325), (491, 28352), (492, 28364),

Gene: Vivi2\_35 Start: 25706, Stop: 30517, Start Num: 11

Candidate Starts for Vivi2\_35:

(Start: 11 @25706 has 58 MA's), (26, 25880), (28, 25904), (57, 26042), (66, 26075), (69, 26087), (72, 26099), (76, 26117), (79, 26129), (84, 26174), (87, 26186), (103, 26285), (115, 26405), (116, 26426), (119, 26486), (121, 26519), (124, 26561), (127, 26597), (131, 26633), (133, 26648), (134, 26651), (141, 26762), (142, 26798), (144, 26849), (147, 26891), (149, 26921), (153, 26972), (156, 27005), (157, 27038), (158, 27050), (166, 27131), (169, 27152), (172, 27164), (181, 27260), (182, 27275), (183, 27296), (184, 27347), (186, 27356), (198, 27482), (199, 27491), (203, 27551), (209, 27596), (212, 27605), (220, 27632), (224, 27659), (226, 27680), (229, 27716), (236, 27782), (238, 27818), (243, 27905), (244, 27908), (258, 27986), (261, 27992), (279, 28118), (301, 28220), (307, 28253), (313, 28316), (320, 28370), (326, 28433), (341, 28544), (347, 28571), (348, 28577), (358, 28679), (365, 28745), (366, 28760), (368, 28772), (372, 28799), (376, 28838), (384, 28904), (390, 28985), (394, 29045), (397, 29090), (416, 29405), (417, 29411), (418, 29429), (425, 29522), (435, 29726), (447, 29870), (450, 29945), (458, 30032), (493, 30371), (499, 30410), (500, 30416), (503, 30422), (506, 30449), (511, 30485), (512, 30497),

Gene: Wizard\_29 Start: 19524, Stop: 25055, Start Num: 1

Candidate Starts for Wizard\_29:

(Start: 1 @19524 has 29 MA's), (3, 19611), (4, 19698), (6, 19731), (7, 19755), (Start: 12 @19878 has 7 MA's), (13, 19899), (14, 19905), (15, 19929), (19, 19959), (25, 19998), (32, 20082), (40, 20118), (43, 20142), (48, 20181), (100, 20571), (116, 20739), (119, 20799), (124, 20871), (125, 20883), (128, 20919), (130, 20943), (138, 21042), (139, 21045), (141, 21075), (143, 21150), (144, 21162), (147, 21204), (149, 21234), (153, 21285), (165, 21426), (166, 21444), (167, 21456), (169, 21465), (180, 21567), (182, 21588), (183, 21609), (184, 21660), (185, 21663), (186, 21669), (191, 21747), (195, 21777), (198, 21795), (203, 21864), (206, 21897), (208, 21903), (210, 21912), (213, 21918), (224,

21972), (227, 22017), (230, 22044), (231, 22053), (233, 22074), (238, 22131), (240, 22167), (248, 22248), (250, 22251), (256, 22320), (267, 22392), (276, 22488), (284, 22554), (285, 22557), (289, 22581), (293, 22608), (294, 22611), (295, 22614), (296, 22620), (304, 22689), (306, 22698), (310, 22743), (311, 22752), (322, 22830), (327, 22884), (334, 22938), (340, 22995), (350, 23037), (354, 23073), (358, 23136), (364, 23187), (377, 23298), (383, 23337), (387, 23418), (400, 23592), (401, 23595), (404, 23628), (414, 23835), (416, 23844), (417, 23850), (433, 24162), (446, 24369), (451, 24507), (463, 24657), (473, 24768), (480, 24813), (481, 24822), (482, 24828), (487, 24864), (496, 24957), (498, 24969), (505, 24999), (507, 25032), (509, 25044),

Gene: YorkOnyx\_33 Start: 23880, Stop: 28898, Start Num: 11

Candidate Starts for YorkOnyx\_33:

(Start: 11 @23880 has 58 MA's), (16, 23955), (21, 24000), (26, 24054), (28, 24078), (31, 24120), (33, 24138), (37, 24153), (44, 24225), (48, 24252), (53, 24327), (55, 24336), (62, 24393), (63, 24411), (64, 24417), (67, 24435), (73, 24462), (93, 24600), (97, 24618), (103, 24669), (105, 24681), (108, 24729), (119, 24870), (121, 24903), (124, 24945), (131, 25017), (133, 25032), (134, 25035), (141, 25146), (142, 25182), (144, 25233), (147, 25275), (149, 25305), (156, 25389), (157, 25422), (166, 25515), (172, 25548), (173, 25551), (177, 25608), (181, 25644), (182, 25659), (183, 25680), (184, 25731), (186, 25740), (191, 25818), (198, 25866), (199, 25875), (206, 25968), (208, 25974), (209, 25980), (212, 25989), (219, 26013), (222, 26025), (224, 26043), (229, 26100), (236, 26166), (238, 26202), (241, 26244), (244, 26292), (250, 26322), (258, 26370), (261, 26376), (278, 26499), (279, 26502), (291, 26565), (297, 26577), (299, 26598), (301, 26604), (307, 26637), (313, 26700), (320, 26754), (326, 26817), (341, 26928), (347, 26955), (348, 26961), (358, 27063), (365, 27129), (382, 27261), (384, 27288), (390, 27369), (394, 27429), (397, 27474), (414, 27780), (416, 27789), (419, 27816), (429, 28014), (435, 28113), (447, 28257), (450, 28329), (451, 28335), (453, 28341), (458, 28416), (460, 28446), (473, 28584), (482, 28644), (487, 28680), (490, 28725), (493, 28752), (499, 28791), (500, 28797), (503, 28803), (506, 28830), (511, 28866), (512, 28878),

Gene: YungMoney\_31 Start: 20893, Stop: 26415, Start Num: 1

Candidate Starts for YungMoney\_31:

(Start: 1 @20893 has 29 MA's), (4, 21067), (6, 21100), (7, 21124), (Start: 12 @21247 has 7 MA's), (13, 21268), (14, 21274), (15, 21298), (19, 21328), (25, 21367), (40, 21487), (43, 21511), (48, 21550), (111, 22066), (116, 22108), (119, 22168), (124, 22240), (128, 22288), (135, 22342), (139, 22414), (141, 22444), (143, 22519), (144, 22531), (147, 22573), (149, 22603), (153, 22654), (161, 22747), (165, 22795), (166, 22813), (167, 22825), (169, 22834), (179, 22933), (180, 22936), (182, 22957), (183, 22978), (184, 23029), (185, 23032), (191, 23116), (195, 23146), (198, 23164), (200, 23191), (203, 23233), (219, 23311), (220, 23314), (221, 23320), (224, 23341), (225, 23344), (230, 23413), (232, 23425), (238, 23500), (248, 23617), (250, 23620), (253, 23668), (276, 23857), (284, 23923), (285, 23926), (289, 23950), (294, 23980), (295, 23983), (296, 23989), (302, 24034), (304, 24058), (306, 24067), (310, 24112), (311, 24121), (313, 24133), (318, 24178), (319, 24181), (322, 24199), (331, 24274), (344, 24382), (350, 24409), (358, 24508), (364, 24559), (377, 24670), (383, 24709), (387, 24790), (400, 24964), (401, 24967), (404, 25000), (414, 25210), (416, 25219), (420, 25267), (433, 25537), (446, 25744), (449, 25834), (451, 25867), (462, 26014), (463, 26017), (473, 26128), (481, 26182), (487, 26224), (496, 26317), (498, 26329), (505, 26359), (507, 26392), (509, 26404),

Gene: Zipp\_32 Start: 24950, Stop: 29863, Start Num: 11

Candidate Starts for Zipp\_32:

(Start: 11 @24950 has 58 MA's), (21, 25070), (22, 25082), (25, 25103), (26, 25124), (28, 25148), (36, 25214), (37, 25223), (38, 25226), (44, 25295), (49, 25328), (50, 25358), (53, 25397), (55, 25406), (74, 25514), (78, 25535), (81, 25577), (83, 25583), (92, 25640), (94, 25649), (103, 25712), (111, 25811), (114, 25823), (118, 25865), (121, 25946), (123, 25970), (125, 26000), (129, 26057), (131, 26060), (132, 26066), (134, 26078), (137, 26150), (141, 26189), (142, 26225), (143, 26264), (144, 26276), (147, 26318), (149, 26348), (156, 26432), (157, 26465), (166, 26558), (169, 26579), (173, 26594), (180, 26681), (183, 26723), (185, 26777), (186, 26783), (188, 26810), (193, 26885), (198, 26909),

(199, 26918), (203, 26978), (204, 26990), (207, 27014), (208, 27017), (218, 27047), (220, 27059), (221, 27065), (223, 27080), (224, 27086), (227, 27131), (230, 27158), (231, 27167), (232, 27170), (242, 27308), (248, 27362), (250, 27365), (264, 27452), (300, 27599), (301, 27602), (312, 27692), (349, 27968), (351, 27983), (352, 27986), (363, 28109), (365, 28133), (370, 28196), (381, 28253), (390, 28370), (392, 28412), (394, 28430), (402, 28541), (409, 28643), (415, 28775), (417, 28787), (419, 28808), (422, 28853), (432, 29072), (433, 29099), (436, 29171), (437, 29210), (452, 29417), (456, 29483), (457, 29489), (464, 29555), (471, 29651), (475, 29690), (485, 29753), (486, 29756), (488, 29774), (489, 29789), (491, 29816), (492, 29828),

Gene: Zitch\_34 Start: 22821, Stop: 27749, Start Num: 11

Candidate Starts for Zitch\_34:

(Start: 11 @22821 has 58 MA's), (21, 22941), (22, 22953), (26, 22995), (28, 23019), (30, 23028), (36, 23085), (37, 23094), (44, 23166), (53, 23268), (55, 23277), (58, 23295), (71, 23376), (74, 23385), (81, 23448), (83, 23454), (88, 23481), (92, 23511), (94, 23520), (103, 23583), (107, 23628), (114, 23694), (121, 23817), (123, 23841), (124, 23859), (131, 23931), (134, 23949), (137, 24021), (141, 24060), (142, 24096), (143, 24135), (144, 24147), (147, 24189), (149, 24219), (156, 24303), (157, 24336), (166, 24429), (173, 24465), (177, 24522), (180, 24552), (183, 24594), (185, 24648), (188, 24681), (191, 24732), (198, 24780), (199, 24789), (203, 24849), (204, 24861), (206, 24882), (208, 24888), (220, 24930), (221, 24936), (223, 24951), (224, 24957), (231, 25038), (232, 25041), (234, 25062), (238, 25116), (242, 25179), (250, 25236), (264, 25323), (273, 25389), (297, 25446), (298, 25449), (301, 25473), (312, 25563), (318, 25611), (349, 25839), (352, 25857), (355, 25914), (365, 26004), (370, 26067), (382, 26148), (384, 26175), (389, 26247), (390, 26256), (394, 26316), (402, 26427), (414, 26658), (416, 26667), (419, 26694), (422, 26736), (432, 26955), (433, 26982), (436, 27054), (437, 27093), (452, 27300), (457, 27372), (464, 27441), (475, 27576), (485, 27639), (486, 27642), (488, 27660), (489, 27675), (491, 27702), (492, 27714),