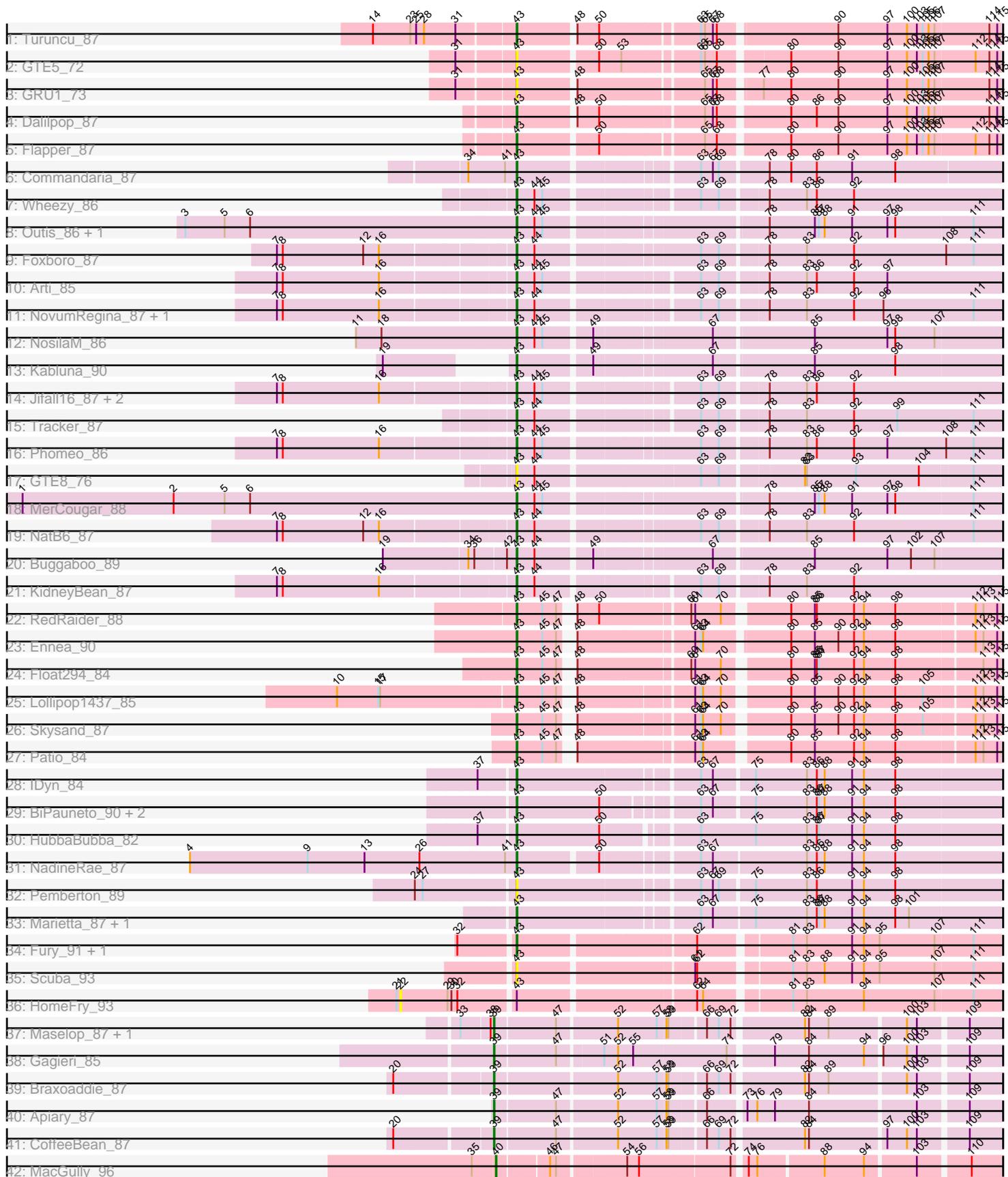


Pham 289482



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 289482 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289482 has 51 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Turuncu\_87
- Track 2 : GTE5\_72
- Track 3 : GRU1\_73
- Track 4 : Dalilpop\_87
- Track 5 : Flapper\_87
- Track 6 : Commandaria\_87
- Track 7 : Wheezy\_86
- Track 8 : Outis\_86, StarStruck\_86
- Track 9 : Foxboro\_87
- Track 10 : Arti\_85
- Track 11 : NovumRegina\_87, GrootJr\_89
- Track 12 : NosilaM\_86
- Track 13 : Kabluna\_90
- Track 14 : Jifall16\_87, Kurt\_89, Emianna\_89
- Track 15 : Tracker\_87
- Track 16 : Phomeo\_86
- Track 17 : GTE8\_76
- Track 18 : MerCougar\_88
- Track 19 : NatB6\_87
- Track 20 : Buggaboo\_89
- Track 21 : KidneyBean\_87
- Track 22 : RedRaider\_88
- Track 23 : Ennea\_90
- Track 24 : Float294\_84
- Track 25 : Lollipop1437\_85
- Track 26 : Skysand\_87
- Track 27 : Patio\_84
- Track 28 : IDyn\_84
- Track 29 : BiPauneto\_90, Yndexa\_88, Sukkupi\_88
- Track 30 : HubbaBubba\_82
- Track 31 : NadineRae\_87
- Track 32 : Pemberton\_89
- Track 33 : Marietta\_87, WhoseManz\_87
- Track 34 : Fury\_91, Pleakley\_91
- Track 35 : Scuba\_93
- Track 36 : HomeFry\_93
- Track 37 : Maselop\_87, Polyuyuki\_86

- Track 38 : Gagieri\_85
- Track 39 : Braxoaddie\_87
- Track 40 : Apiary\_87
- Track 41 : CoffeeBean\_87
- Track 42 : MacGully\_96

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

The start number called the most often in the published annotations is 43, it was called in 38 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arti\_85, BiPauneto\_90, Buggaboo\_89, Commandaria\_87, Dalilpop\_87, Emianna\_89, Ennea\_90, Flapper\_87, Float294\_84, Foxboro\_87, Fury\_91, GRU1\_73, GTE5\_72, GTE8\_76, GrootJr\_89, HubbaBubba\_82, IDyn\_84, Jifall16\_87, Kabluna\_90, KidneyBean\_87, Kurt\_89, Lollipop1437\_85, Marietta\_87, MerCougar\_88, NadineRae\_87, NatB6\_87, NosilaM\_86, NovumRegina\_87, Outis\_86, Patio\_84, Pemberton\_89, Phomeo\_86, Pleakley\_91, RedRaider\_88, Scuba\_93, Skysand\_87, StarStruck\_86, Sukkupi\_88, Tracker\_87, Turuncu\_87, Wheezy\_86, WhoseManz\_87, Yndexa\_88,

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

- HomeFry\_93,

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

- Apiary\_87, Braxoaddie\_87, CoffeeBean\_87, Gagieri\_85, MacGully\_96, Maselop\_87, Polyuyuki\_86,

### **Summary by start number:**

Start 22:

- Found in 1 of 51 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HomeFry\_93 (CR5),

Start 39:

- Found in 6 of 51 ( 11.8% ) of genes in pham
- Manual Annotations of this start: 6 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apiary\_87 (CR6), Braxoaddie\_87 (CR6), CoffeeBean\_87 (CR6), Gagieri\_85 (CR6), Maselop\_87 (CR6), Polyuyuki\_86 (CR6),

Start 40:

- Found in 1 of 51 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MacGully\_96 (CR7),

Start 43:

- Found in 44 of 51 ( 86.3% ) of genes in pham
- Manual Annotations of this start: 38 of 45
- Called 97.7% of time when present
- Phage (with cluster) where this start called: Arti\_85 (CR2), BiPauneto\_90 (CR4), Buggaboo\_89 (CR2), Commandaria\_87 (CR2), Dalilpop\_87 (CR1), Emianna\_89 (CR2), Ennea\_90 (CR3), Flapper\_87 (CR1), Float294\_84 (CR3), Foxboro\_87 (CR2), Fury\_91 (CR5), GRU1\_73 (CR1), GTE5\_72 (CR1), GTE8\_76 (CR2), GrootJr\_89 (CR2), HubbaBubba\_82 (CR4), IDyn\_84 (CR4), Jifall16\_87 (CR2), Kabluna\_90 (CR2), KidneyBean\_87 (CR2), Kurt\_89 (CR2), Lollipop1437\_85 (CR3), Marietta\_87 (CR4), MerCougar\_88 (CR2), NadineRae\_87 (CR4), NatB6\_87 (CR2), NosilaM\_86 (CR2), NovumRegina\_87 (CR2), Outis\_86 (CR2), Patio\_84 (CR3), Pemberton\_89 (CR4), Phomeo\_86 (CR2), Pleakley\_91 (CR5), RedRaider\_88 (CR3), Scuba\_93 (CR5), Skysand\_87 (CR3), StarStruck\_86 (CR2), Sukkupi\_88 (CR4), Tracker\_87 (CR2), Turuncu\_87 (CR1), Wheezy\_86 (CR2), WhoseManz\_87 (CR4), Yndexa\_88 (CR4),

### **Summary by clusters:**

There are 7 clusters represented in this pham: CR2, CR3, CR1, CR6, CR7, CR4, CR5,

Info for manual annotations of cluster CR1:

- Start number 43 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 43 was manually annotated 19 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 43 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 43 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 43 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CR6:

- Start number 39 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 40 was manually annotated 1 time for cluster CR7.

### **Gene Information:**

Gene: Apiary\_87 Start: 60837, Stop: 61550, Start Num: 39

Candidate Starts for Apiary\_87:

(Start: 39 @60837 has 6 MA's), (47, 60927), (52, 61014), (57, 61071), (58, 61083), (59, 61086), (66, 61134), (73, 61182), (76, 61197), (79, 61224), (84, 61275), (103, 61431), (109, 61500),

Gene: Arti\_85 Start: 63159, Stop: 63842, Start Num: 43

Candidate Starts for Arti\_85:

(7, 62817), (8, 62826), (16, 62973), (Start: 43 @63159 has 38 MA's), (44, 63186), (45, 63198), (63, 63399), (69, 63426), (78, 63489), (83, 63546), (86, 63561), (92, 63618), (97, 63669),

Gene: BiPauneto\_90 Start: 62982, Stop: 63671, Start Num: 43

Candidate Starts for BiPauneto\_90:

(Start: 43 @62982 has 38 MA's), (50, 63108), (63, 63225), (67, 63243), (75, 63300), (83, 63378), (86, 63393), (87, 63396), (88, 63405), (91, 63447), (94, 63465), (98, 63513),

Gene: Braxoaddie\_87 Start: 60838, Stop: 61548, Start Num: 39

Candidate Starts for Braxoaddie\_87:

(20, 60703), (Start: 39 @60838 has 6 MA's), (52, 61015), (57, 61072), (58, 61084), (59, 61087), (66, 61135), (69, 61153), (72, 61171), (82, 61267), (84, 61273), (89, 61303), (100, 61414), (103, 61429), (109, 61498),

Gene: Buggaboo\_89 Start: 64935, Stop: 65627, Start Num: 43

Candidate Starts for Buggaboo\_89:

(19, 64743), (34, 64869), (36, 64878), (42, 64920), (Start: 43 @64935 has 38 MA's), (44, 64962), (49, 65040), (67, 65202), (85, 65346), (97, 65457), (102, 65493), (107, 65529),

Gene: CoffeeBean\_87 Start: 60796, Stop: 61506, Start Num: 39

Candidate Starts for CoffeeBean\_87:

(20, 60661), (Start: 39 @60796 has 6 MA's), (47, 60886), (52, 60973), (57, 61030), (58, 61042), (59, 61045), (66, 61093), (69, 61111), (72, 61129), (82, 61225), (84, 61231), (97, 61342), (100, 61372), (103, 61387), (109, 61456),

Gene: Commandaria\_87 Start: 64123, Stop: 64806, Start Num: 43

Candidate Starts for Commandaria\_87:

(34, 64057), (41, 64108), (Start: 43 @64123 has 38 MA's), (63, 64363), (67, 64381), (69, 64390), (78, 64459), (80, 64492), (86, 64531), (91, 64585), (98, 64651),

Gene: Dalilpop\_87 Start: 62545, Stop: 63237, Start Num: 43

Candidate Starts for Dalilpop\_87:

(Start: 43 @62545 has 38 MA's), (48, 62626), (50, 62659), (65, 62803), (67, 62815), (68, 62821), (80, 62920), (86, 62959), (90, 62992), (97, 63067), (100, 63097), (103, 63112), (105, 63121), (106, 63130), (107, 63139), (114, 63220), (115, 63232),

Gene: Emianna\_89 Start: 64859, Stop: 65542, Start Num: 43

Candidate Starts for Emianna\_89:

(7, 64517), (8, 64526), (16, 64673), (Start: 43 @64859 has 38 MA's), (44, 64886), (45, 64898), (63, 65099), (69, 65126), (78, 65189), (83, 65246), (86, 65261), (92, 65318),

Gene: Ennea\_90 Start: 62727, Stop: 63398, Start Num: 43

Candidate Starts for Ennea\_90:

(Start: 43 @62727 has 38 MA's), (45, 62766), (47, 62787), (48, 62796), (61, 62958), (63, 62967), (64, 62970), (80, 63087), (85, 63123), (90, 63159), (92, 63183), (94, 63198), (98, 63246), (112, 63360), (113, 63372), (115, 63393),

Gene: Flapper\_87 Start: 62379, Stop: 63068, Start Num: 43

Candidate Starts for Flapper\_87:

(Start: 43 @62379 has 38 MA's), (50, 62493), (65, 62634), (68, 62652), (80, 62751), (90, 62823), (97, 62898), (100, 62928), (103, 62943), (105, 62952), (106, 62961), (107, 62970), (112, 63030), (114, 63051), (115, 63063),

Gene: Float294\_84 Start: 62632, Stop: 63300, Start Num: 43

Candidate Starts for Float294\_84:

(Start: 43 @62632 has 38 MA's), (45, 62671), (47, 62692), (48, 62701), (60, 62857), (61, 62863), (70, 62902), (80, 62989), (85, 63025), (86, 63028), (87, 63031), (92, 63085), (94, 63100), (98, 63148), (113, 63274), (115, 63295),

Gene: Foxboro\_87 Start: 64464, Stop: 65156, Start Num: 43

Candidate Starts for Foxboro\_87:

(7, 64122), (8, 64131), (12, 64254), (16, 64278), (Start: 43 @64464 has 38 MA's), (44, 64491), (63, 64713), (69, 64740), (78, 64803), (83, 64860), (92, 64932), (108, 65073), (111, 65115),

Gene: Fury\_91 Start: 60431, Stop: 61120, Start Num: 43

Candidate Starts for Fury\_91:

(32, 60356), (Start: 43 @60431 has 38 MA's), (62, 60680), (81, 60806), (83, 60827), (91, 60896), (94, 60914), (95, 60938), (107, 61022), (111, 61079),

Gene: GRU1\_73 Start: 53998, Stop: 54684, Start Num: 43

Candidate Starts for GRU1\_73:

(31, 53917), (Start: 43 @53998 has 38 MA's), (48, 54079), (65, 54253), (67, 54265), (68, 54271), (77, 54325), (80, 54367), (90, 54439), (97, 54514), (100, 54544), (105, 54568), (106, 54577), (107, 54586), (114, 54667), (115, 54679),

Gene: GTE5\_72 Start: 54889, Stop: 55575, Start Num: 43

Candidate Starts for GTE5\_72:

(31, 54808), (Start: 43 @54889 has 38 MA's), (50, 55003), (53, 55033), (63, 55138), (65, 55144), (68, 55162), (80, 55258), (90, 55330), (97, 55405), (100, 55435), (103, 55450), (105, 55459), (106, 55468), (107, 55477), (112, 55537), (114, 55558), (115, 55570),

Gene: GTE8\_76 Start: 57064, Stop: 57753, Start Num: 43

Candidate Starts for GTE8\_76:

(Start: 43 @57064 has 38 MA's), (44, 57091), (63, 57319), (69, 57346), (82, 57460), (83, 57463), (93, 57538), (104, 57634), (111, 57712),

Gene: Gagieri\_85 Start: 60413, Stop: 61129, Start Num: 39

Candidate Starts for Gagieri\_85:

(Start: 39 @60413 has 6 MA's), (47, 60503), (51, 60566), (52, 60587), (55, 60608), (71, 60746), (79, 60803), (84, 60854), (94, 60938), (96, 60959), (100, 60995), (103, 61010), (109, 61079),

Gene: GrootJr\_89 Start: 63867, Stop: 64550, Start Num: 43

Candidate Starts for GrootJr\_89:

(7, 63525), (8, 63534), (16, 63681), (Start: 43 @63867 has 38 MA's), (44, 63894), (63, 64107), (69, 64134), (78, 64197), (83, 64254), (92, 64326), (96, 64371), (111, 64509),

Gene: HomeFry\_93 Start: 59344, Stop: 60195, Start Num: 22

Candidate Starts for HomeFry\_93:

(21, 59338), (22, 59344), (29, 59416), (30, 59422), (32, 59431), (Start: 43 @59506 has 38 MA's), (62, 59755), (64, 59764), (81, 59881), (83, 59902), (94, 59989), (107, 60097), (111, 60154),

Gene: HubbaBubba\_82 Start: 59977, Stop: 60675, Start Num: 43

Candidate Starts for HubbaBubba\_82:

(37, 59929), (Start: 43 @59977 has 38 MA's), (50, 60103), (63, 60220), (75, 60304), (83, 60382), (86, 60397), (87, 60400), (91, 60451), (94, 60469), (98, 60517),

Gene: IDyn\_84 Start: 60626, Stop: 61321, Start Num: 43

Candidate Starts for IDyn\_84:

(37, 60578), (Start: 43 @60626 has 38 MA's), (63, 60875), (67, 60893), (75, 60950), (83, 61028), (86, 61043), (88, 61055), (91, 61097), (94, 61115), (98, 61163),

Gene: Jifall16\_87 Start: 64115, Stop: 64798, Start Num: 43

Candidate Starts for Jifall16\_87:

(7, 63773), (8, 63782), (16, 63929), (Start: 43 @64115 has 38 MA's), (44, 64142), (45, 64154), (63, 64355), (69, 64382), (78, 64445), (83, 64502), (86, 64517), (92, 64574),

Gene: Kabluna\_90 Start: 62117, Stop: 62809, Start Num: 43

Candidate Starts for Kabluna\_90:

(19, 61997), (Start: 43 @62117 has 38 MA's), (49, 62222), (67, 62384), (85, 62528), (98, 62651),

Gene: KidneyBean\_87 Start: 64452, Stop: 65135, Start Num: 43

Candidate Starts for KidneyBean\_87:

(7, 64110), (8, 64119), (16, 64266), (Start: 43 @64452 has 38 MA's), (44, 64479), (63, 64692), (69, 64719), (78, 64782), (83, 64839), (92, 64911),

Gene: Kurt\_89 Start: 64874, Stop: 65557, Start Num: 43

Candidate Starts for Kurt\_89:

(7, 64532), (8, 64541), (16, 64688), (Start: 43 @64874 has 38 MA's), (44, 64901), (45, 64913), (63, 65114), (69, 65141), (78, 65204), (83, 65261), (86, 65276), (92, 65333),

Gene: Lollipop1437\_85 Start: 62420, Stop: 63082, Start Num: 43

Candidate Starts for Lollipop1437\_85:

(10, 62153), (15, 62216), (17, 62219), (Start: 43 @62420 has 38 MA's), (45, 62459), (47, 62480), (48, 62489), (61, 62645), (63, 62654), (64, 62657), (70, 62684), (80, 62771), (85, 62807), (90, 62843), (92, 62867), (94, 62882), (98, 62930), (105, 62972), (112, 63044), (113, 63056), (115, 63077),

Gene: MacGully\_96 Start: 63179, Stop: 63874, Start Num: 40

Candidate Starts for MacGully\_96:

(35, 63146), (Start: 40 @63179 has 1 MA's), (46, 63248), (47, 63257), (54, 63353), (56, 63371), (72, 63506), (74, 63521), (76, 63533), (88, 63623), (94, 63683), (103, 63755), (110, 63827),

Gene: Marietta\_87 Start: 60667, Stop: 61365, Start Num: 43

Candidate Starts for Marietta\_87:

(Start: 43 @60667 has 38 MA's), (63, 60916), (67, 60934), (75, 60994), (83, 61072), (86, 61087), (87, 61090), (88, 61099), (91, 61141), (94, 61159), (98, 61207), (101, 61228),

Gene: Maselop\_87 Start: 60846, Stop: 61556, Start Num: 39

Candidate Starts for Maselop\_87:

(33, 60804), (38, 60843), (Start: 39 @60846 has 6 MA's), (47, 60936), (52, 61023), (57, 61080), (58, 61092), (59, 61095), (66, 61143), (69, 61161), (72, 61179), (82, 61275), (84, 61281), (89, 61311), (100, 61422), (103, 61437), (109, 61506),

Gene: MerCougar\_88 Start: 64667, Stop: 65359, Start Num: 43

Candidate Starts for MerCougar\_88:

(1, 63917), (2, 64148), (5, 64226), (6, 64265), (Start: 43 @64667 has 38 MA's), (44, 64694), (45, 64706), (78, 65009), (85, 65078), (87, 65084), (88, 65093), (91, 65135), (97, 65189), (98, 65201), (111, 65318),

Gene: NadineRae\_87 Start: 60610, Stop: 61296, Start Num: 43

Candidate Starts for NadineRae\_87:

(4, 60121), (9, 60301), (13, 60388), (26, 60472), (41, 60595), (Start: 43 @60610 has 38 MA's), (50, 60724), (63, 60847), (67, 60865), (83, 61003), (86, 61018), (88, 61030), (91, 61072), (94, 61090), (98, 61138),

Gene: NatB6\_87 Start: 63499, Stop: 64191, Start Num: 43

Candidate Starts for NatB6\_87:

(7, 63157), (8, 63166), (12, 63289), (16, 63313), (Start: 43 @63499 has 38 MA's), (44, 63526), (63, 63748), (69, 63775), (78, 63838), (83, 63895), (92, 63967), (111, 64150),

Gene: NosilaM\_86 Start: 63524, Stop: 64216, Start Num: 43

Candidate Starts for NosilaM\_86:

(11, 63284), (18, 63323), (Start: 43 @63524 has 38 MA's), (44, 63551), (45, 63563), (49, 63629), (67, 63791), (85, 63935), (97, 64046), (98, 64058), (107, 64118),

Gene: NovumRegina\_87 Start: 63866, Stop: 64549, Start Num: 43

Candidate Starts for NovumRegina\_87:

(7, 63524), (8, 63533), (16, 63680), (Start: 43 @63866 has 38 MA's), (44, 63893), (63, 64106), (69, 64133), (78, 64196), (83, 64253), (92, 64325), (96, 64370), (111, 64508),

Gene: Outis\_86 Start: 63940, Stop: 64632, Start Num: 43

Candidate Starts for Outis\_86:

(3, 63439), (5, 63499), (6, 63538), (Start: 43 @63940 has 38 MA's), (44, 63967), (45, 63979), (78, 64282), (85, 64351), (87, 64357), (88, 64366), (91, 64408), (97, 64462), (98, 64474), (111, 64591),

Gene: Patio\_84 Start: 61626, Stop: 62291, Start Num: 43

Candidate Starts for Patio\_84:

(Start: 43 @61626 has 38 MA's), (45, 61665), (47, 61686), (48, 61695), (61, 61854), (63, 61863), (64, 61866), (80, 61980), (85, 62016), (92, 62076), (94, 62091), (98, 62139), (112, 62253), (113, 62265), (115, 62286),

Gene: Pemberton\_89 Start: 60919, Stop: 61614, Start Num: 43

Candidate Starts for Pemberton\_89:

(24, 60781), (27, 60793), (Start: 43 @60919 has 38 MA's), (63, 61168), (67, 61186), (69, 61195), (75, 61243), (83, 61321), (86, 61336), (91, 61390), (94, 61408), (98, 61456),

Gene: Phomeo\_86 Start: 64111, Stop: 64803, Start Num: 43

Candidate Starts for Phomeo\_86:

(7, 63769), (8, 63778), (16, 63925), (Start: 43 @64111 has 38 MA's), (44, 64138), (45, 64150), (63, 64360), (69, 64387), (78, 64450), (83, 64507), (86, 64522), (92, 64579), (97, 64630), (108, 64720), (111, 64762),

Gene: Pleakley\_91 Start: 60432, Stop: 61121, Start Num: 43

Candidate Starts for Pleakley\_91:

(32, 60357), (Start: 43 @60432 has 38 MA's), (62, 60681), (81, 60807), (83, 60828), (91, 60897), (94, 60915), (95, 60939), (107, 61023), (111, 61080),

Gene: Polyuyki\_86 Start: 60856, Stop: 61566, Start Num: 39

Candidate Starts for Polyuyki\_86:

(33, 60814), (38, 60853), (Start: 39 @60856 has 6 MA's), (47, 60946), (52, 61033), (57, 61090), (58, 61102), (59, 61105), (66, 61153), (69, 61171), (72, 61189), (82, 61285), (84, 61291), (89, 61321), (100, 61432), (103, 61447), (109, 61516),

Gene: RedRaider\_88 Start: 63832, Stop: 64500, Start Num: 43

Candidate Starts for RedRaider\_88:

(Start: 43 @63832 has 38 MA's), (45, 63871), (47, 63892), (48, 63901), (50, 63934), (60, 64057), (61, 64063), (70, 64102), (80, 64189), (85, 64225), (86, 64228), (92, 64285), (94, 64300), (98, 64348), (112, 64462), (113, 64474), (115, 64495),

Gene: Scuba\_93 Start: 60542, Stop: 61231, Start Num: 43

Candidate Starts for Scuba\_93:

(Start: 43 @60542 has 38 MA's), (61, 60788), (62, 60791), (81, 60917), (83, 60938), (88, 60965), (91, 61007), (94, 61025), (95, 61049), (107, 61133), (111, 61190),

Gene: Skysand\_87 Start: 62582, Stop: 63244, Start Num: 43

Candidate Starts for Skysand\_87:

(Start: 43 @62582 has 38 MA's), (45, 62621), (47, 62642), (48, 62651), (61, 62807), (63, 62816), (64, 62819), (70, 62846), (80, 62933), (85, 62969), (90, 63005), (92, 63029), (94, 63044), (98, 63092), (105, 63134), (112, 63206), (113, 63218), (115, 63239),

Gene: StarStruck\_86 Start: 63940, Stop: 64632, Start Num: 43

Candidate Starts for StarStruck\_86:

(3, 63439), (5, 63499), (6, 63538), (Start: 43 @63940 has 38 MA's), (44, 63967), (45, 63979), (78, 64282), (85, 64351), (87, 64357), (88, 64366), (91, 64408), (97, 64462), (98, 64474), (111, 64591),

Gene: Sukkupi\_88 Start: 62790, Stop: 63485, Start Num: 43

Candidate Starts for Sukkupi\_88:

(Start: 43 @62790 has 38 MA's), (50, 62916), (63, 63039), (67, 63057), (75, 63114), (83, 63192), (86, 63207), (87, 63210), (88, 63219), (91, 63261), (94, 63279), (98, 63327),

Gene: Tracker\_87 Start: 63291, Stop: 63974, Start Num: 43

Candidate Starts for Tracker\_87:

(Start: 43 @63291 has 38 MA's), (44, 63318), (63, 63531), (69, 63558), (78, 63621), (83, 63678), (92, 63750), (99, 63816), (111, 63933),

Gene: Turuncu\_87 Start: 61998, Stop: 62684, Start Num: 43

Candidate Starts for Turuncu\_87:

(14, 61791), (23, 61848), (25, 61857), (28, 61869), (31, 61917), (Start: 43 @61998 has 38 MA's), (48, 62079), (50, 62112), (63, 62247), (65, 62253), (67, 62265), (68, 62271), (90, 62439), (97, 62514), (100, 62544), (103, 62559), (105, 62568), (106, 62577), (107, 62586), (114, 62667), (115, 62679),

Gene: Wheezy\_86 Start: 63691, Stop: 64374, Start Num: 43

Candidate Starts for Wheezy\_86:

(Start: 43 @63691 has 38 MA's), (44, 63718), (45, 63730), (63, 63931), (69, 63958), (78, 64021), (83, 64078), (86, 64093), (92, 64150),

Gene: WhoseManz\_87 Start: 60330, Stop: 61028, Start Num: 43

Candidate Starts for WhoseManz\_87:

(Start: 43 @60330 has 38 MA's), (63, 60579), (67, 60597), (75, 60657), (83, 60735), (86, 60750), (87, 60753), (88, 60762), (91, 60804), (94, 60822), (98, 60870), (101, 60891),

Gene: Yndexa\_88 Start: 62790, Stop: 63485, Start Num: 43

Candidate Starts for Yndexa\_88:

(Start: 43 @62790 has 38 MA's), (50, 62916), (63, 63039), (67, 63057), (75, 63114), (83, 63192), (86, 63207), (87, 63210), (88, 63219), (91, 63261), (94, 63279), (98, 63327),