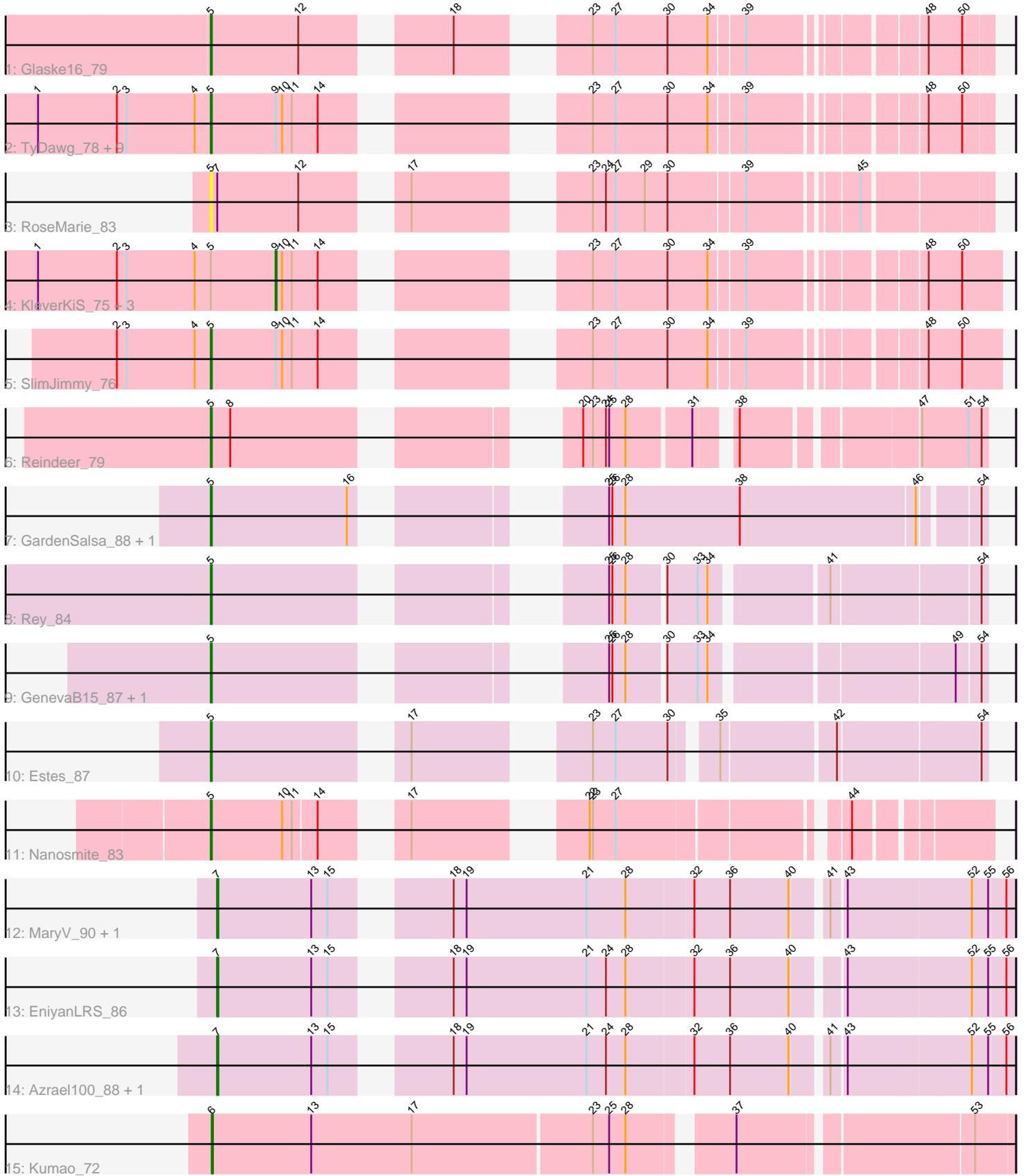


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 284048 Report

This analysis was run 02/23/26 on database version 636.

Pham number 284048 has 31 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Glaske16\_79
- Track 2 : TyDawg\_78, Skinny\_81, Dulcita\_79, Bricole\_76, LilhomieP\_78, IPhane7\_77, Diminimus\_79, Bongo\_78, Auspice\_78, Izel\_79
- Track 3 : RoseMarie\_83
- Track 4 : KleverKiS\_75, FreakyGoo\_80, PegLeg\_77, TpudiCK\_80
- Track 5 : SlimJimmy\_76
- Track 6 : Reindeer\_79
- Track 7 : GardenSalsa\_88, MrMagoo\_88
- Track 8 : Rey\_84
- Track 9 : GenevaB15\_87, Aziz\_85
- Track 10 : Estes\_87
- Track 11 : Nanosmite\_83
- Track 12 : MaryV\_90, Wildcat\_90
- Track 13 : EniyanLRS\_86
- Track 14 : Azrael100\_88, Cosmo\_89
- Track 15 : Kumao\_72

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

The start number called the most often in the published annotations is 5, it was called in 20 of the 28 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Auspice\_78, Aziz\_85, Bongo\_78, Bricole\_76, Diminimus\_79, Dulcita\_79, Estes\_87, GardenSalsa\_88, GenevaB15\_87, Glaske16\_79, IPhane7\_77, Izel\_79, LilhomieP\_78, MrMagoo\_88, Nanosmite\_83, Reindeer\_79, Rey\_84, RoseMarie\_83, Skinny\_81, SlimJimmy\_76, TyDawg\_78,

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

- FreakyGoo\_80, KleverKiS\_75, PegLeg\_77, TpudiCK\_80,

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

- Azrael100\_88, Cosmo\_89, EniyanLRS\_86, Kumao\_72, MaryV\_90, Wildcat\_90,

## Summary by start number:

### Start 5:

- Found in 25 of 31 ( 80.6% ) of genes in pham
- Manual Annotations of this start: 20 of 28
- Called 84.0% of time when present
- Phage (with cluster) where this start called: Auspice\_78 (M1), Aziz\_85 (M2), Bongo\_78 (M1), Bricole\_76 (M1), Diminimus\_79 (M1), Dulcita\_79 (M1), Estes\_87 (M2), GardenSalsa\_88 (M2), GenevaB15\_87 (M2), Glaske16\_79 (M1), IPhane7\_77 (M1), Izel\_79 (M1), LilhomieP\_78 (M1), MrMagoo\_88 (M2), Nanosmite\_83 (M3), Reindeer\_79 (M1), Rey\_84 (M2), RoseMarie\_83 (M1), Skinny\_81 (M1), SlimJimmy\_76 (M1), TyDawg\_78 (M1),

### Start 6:

- Found in 1 of 31 ( 3.2% ) of genes in pham
- Manual Annotations of this start: 1 of 28
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumao\_72 (singleton),

### Start 7:

- Found in 6 of 31 ( 19.4% ) of genes in pham
- Manual Annotations of this start: 5 of 28
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Azrael100\_88 (V), Cosmo\_89 (V), EniyanLRS\_86 (V), MaryV\_90 (V), Wildcat\_90 (V),

### Start 9:

- Found in 15 of 31 ( 48.4% ) of genes in pham
- Manual Annotations of this start: 2 of 28
- Called 26.7% of time when present
- Phage (with cluster) where this start called: FreakyGoo\_80 (M1), KleverKiS\_75 (M1), PegLeg\_77 (M1), TpudiCK\_80 (M1),

## Summary by clusters:

There are 5 clusters represented in this pham: singleton, M2, M1, M3, V,

### Info for manual annotations of cluster M1:

- Start number 5 was manually annotated 13 times for cluster M1.
- Start number 9 was manually annotated 2 times for cluster M1.

### Info for manual annotations of cluster M2:

- Start number 5 was manually annotated 6 times for cluster M2.

### Info for manual annotations of cluster M3:

- Start number 5 was manually annotated 1 time for cluster M3.

### Info for manual annotations of cluster V:

- Start number 7 was manually annotated 5 times for cluster V.

## Gene Information:

Gene: Auspice\_78 Start: 49587, Stop: 50189, Start Num: 5

Candidate Starts for Auspice\_78:

(1, 49428), (2, 49500), (3, 49509), (4, 49572), (Start: 5 @49587 has 20 MA's), (Start: 9 @49647 has 2 MA's), (10, 49653), (11, 49662), (14, 49686), (23, 49860), (27, 49881), (30, 49929), (34, 49965), (39, 49995), (48, 50133), (50, 50163),

Gene: Aziz\_85 Start: 51504, Stop: 52097, Start Num: 5

Candidate Starts for Aziz\_85:

(Start: 5 @51504 has 20 MA's), (25, 51783), (26, 51786), (28, 51798), (30, 51831), (33, 51858), (34, 51867), (49, 52071), (54, 52092),

Gene: Azrael100\_88 Start: 54300, Stop: 54977, Start Num: 7

Candidate Starts for Azrael100\_88:

(Start: 7 @54300 has 5 MA's), (13, 54387), (15, 54402), (18, 54483), (19, 54495), (21, 54606), (24, 54624), (28, 54642), (32, 54702), (36, 54735), (40, 54789), (41, 54816), (43, 54828), (52, 54939), (55, 54954), (56, 54969),

Gene: Bongo\_78 Start: 49591, Stop: 50193, Start Num: 5

Candidate Starts for Bongo\_78:

(1, 49432), (2, 49504), (3, 49513), (4, 49576), (Start: 5 @49591 has 20 MA's), (Start: 9 @49651 has 2 MA's), (10, 49657), (11, 49666), (14, 49690), (23, 49864), (27, 49885), (30, 49933), (34, 49969), (39, 49999), (48, 50137), (50, 50167),

Gene: Bricole\_76 Start: 49076, Stop: 49687, Start Num: 5

Candidate Starts for Bricole\_76:

(1, 48917), (2, 48989), (3, 48998), (4, 49061), (Start: 5 @49076 has 20 MA's), (Start: 9 @49136 has 2 MA's), (10, 49142), (11, 49151), (14, 49175), (23, 49349), (27, 49370), (30, 49418), (34, 49454), (39, 49484), (48, 49622), (50, 49652),

Gene: Cosmo\_89 Start: 54301, Stop: 54978, Start Num: 7

Candidate Starts for Cosmo\_89:

(Start: 7 @54301 has 5 MA's), (13, 54388), (15, 54403), (18, 54484), (19, 54496), (21, 54607), (24, 54625), (28, 54643), (32, 54703), (36, 54736), (40, 54790), (41, 54817), (43, 54829), (52, 54940), (55, 54955), (56, 54970),

Gene: Diminimus\_79 Start: 49586, Stop: 50188, Start Num: 5

Candidate Starts for Diminimus\_79:

(1, 49427), (2, 49499), (3, 49508), (4, 49571), (Start: 5 @49586 has 20 MA's), (Start: 9 @49646 has 2 MA's), (10, 49652), (11, 49661), (14, 49685), (23, 49859), (27, 49880), (30, 49928), (34, 49964), (39, 49994), (48, 50132), (50, 50162),

Gene: Dulcita\_79 Start: 49587, Stop: 50189, Start Num: 5

Candidate Starts for Dulcita\_79:

(1, 49428), (2, 49500), (3, 49509), (4, 49572), (Start: 5 @49587 has 20 MA's), (Start: 9 @49647 has 2 MA's), (10, 49653), (11, 49662), (14, 49686), (23, 49860), (27, 49881), (30, 49929), (34, 49965), (39, 49995), (48, 50133), (50, 50163),

Gene: EniyanLRS\_86 Start: 54295, Stop: 54972, Start Num: 7

Candidate Starts for EniyanLRS\_86:

(Start: 7 @54295 has 5 MA's), (13, 54382), (15, 54397), (18, 54478), (19, 54490), (21, 54601), (24, 54619), (28, 54637), (32, 54697), (36, 54730), (40, 54784), (43, 54823), (52, 54934), (55, 54949), (56, 54964),

Gene: Estes\_87 Start: 51851, Stop: 52453, Start Num: 5

Candidate Starts for Estes\_87:

(Start: 5 @51851 has 20 MA's), (17, 52001), (23, 52124), (27, 52145), (30, 52193), (35, 52226), (42, 52325), (54, 52448),

Gene: FreakyGoo\_80 Start: 50126, Stop: 50668, Start Num: 9

Candidate Starts for FreakyGoo\_80:

(1, 49907), (2, 49979), (3, 49988), (4, 50051), (Start: 5 @50066 has 20 MA's), (Start: 9 @50126 has 2 MA's), (10, 50132), (11, 50141), (14, 50165), (23, 50339), (27, 50360), (30, 50408), (34, 50444), (39, 50474), (48, 50612), (50, 50642),

Gene: GardenSalsa\_88 Start: 52055, Stop: 52666, Start Num: 5

Candidate Starts for GardenSalsa\_88:

(Start: 5 @52055 has 20 MA's), (16, 52181), (25, 52334), (26, 52337), (28, 52349), (38, 52454), (46, 52613), (54, 52661),

Gene: GenevaB15\_87 Start: 51504, Stop: 52097, Start Num: 5

Candidate Starts for GenevaB15\_87:

(Start: 5 @51504 has 20 MA's), (25, 51783), (26, 51786), (28, 51798), (30, 51831), (33, 51858), (34, 51867), (49, 52071), (54, 52092),

Gene: Glaske16\_79 Start: 49651, Stop: 50253, Start Num: 5

Candidate Starts for Glaske16\_79:

(Start: 5 @49651 has 20 MA's), (12, 49732), (18, 49840), (23, 49924), (27, 49945), (30, 49993), (34, 50029), (39, 50059), (48, 50197), (50, 50227),

Gene: IPhane7\_77 Start: 49591, Stop: 50193, Start Num: 5

Candidate Starts for IPhane7\_77:

(1, 49432), (2, 49504), (3, 49513), (4, 49576), (Start: 5 @49591 has 20 MA's), (Start: 9 @49651 has 2 MA's), (10, 49657), (11, 49666), (14, 49690), (23, 49864), (27, 49885), (30, 49933), (34, 49969), (39, 49999), (48, 50137), (50, 50167),

Gene: Izel\_79 Start: 49586, Stop: 50188, Start Num: 5

Candidate Starts for Izel\_79:

(1, 49427), (2, 49499), (3, 49508), (4, 49571), (Start: 5 @49586 has 20 MA's), (Start: 9 @49646 has 2 MA's), (10, 49652), (11, 49661), (14, 49685), (23, 49859), (27, 49880), (30, 49928), (34, 49964), (39, 49994), (48, 50132), (50, 50162),

Gene: KleverKiS\_75 Start: 49130, Stop: 49681, Start Num: 9

Candidate Starts for KleverKiS\_75:

(1, 48911), (2, 48983), (3, 48992), (4, 49055), (Start: 5 @49070 has 20 MA's), (Start: 9 @49130 has 2 MA's), (10, 49136), (11, 49145), (14, 49169), (23, 49343), (27, 49364), (30, 49412), (34, 49448), (39, 49478), (48, 49616), (50, 49646),

Gene: Kumao\_72 Start: 49482, Stop: 50174, Start Num: 6

Candidate Starts for Kumao\_72:

(Start: 6 @49482 has 1 MA's), (13, 49572), (17, 49665), (23, 49827), (25, 49842), (28, 49857), (37, 49938), (53, 50139),

Gene: LilhomieP\_78 Start: 50070, Stop: 50672, Start Num: 5

Candidate Starts for LilhomieP\_78:

(1, 49911), (2, 49983), (3, 49992), (4, 50055), (Start: 5 @50070 has 20 MA's), (Start: 9 @50130 has 2 MA's), (10, 50136), (11, 50145), (14, 50169), (23, 50343), (27, 50364), (30, 50412), (34, 50448), (39,

50478), (48, 50616), (50, 50646),

Gene: MaryV\_90 Start: 54365, Stop: 55042, Start Num: 7

Candidate Starts for MaryV\_90:

(Start: 7 @54365 has 5 MA's), (13, 54452), (15, 54467), (18, 54548), (19, 54560), (21, 54671), (28, 54707), (32, 54767), (36, 54800), (40, 54854), (41, 54881), (43, 54893), (52, 55004), (55, 55019), (56, 55034),

Gene: MrMagoo\_88 Start: 52055, Stop: 52666, Start Num: 5

Candidate Starts for MrMagoo\_88:

(Start: 5 @52055 has 20 MA's), (16, 52181), (25, 52334), (26, 52337), (28, 52349), (38, 52454), (46, 52613), (54, 52661),

Gene: Nanosmite\_83 Start: 51032, Stop: 51622, Start Num: 5

Candidate Starts for Nanosmite\_83:

(Start: 5 @51032 has 20 MA's), (10, 51098), (11, 51107), (14, 51128), (17, 51179), (22, 51299), (23, 51302), (27, 51323), (44, 51509),

Gene: PegLeg\_77 Start: 49391, Stop: 49933, Start Num: 9

Candidate Starts for PegLeg\_77:

(1, 49172), (2, 49244), (3, 49253), (4, 49316), (Start: 5 @49331 has 20 MA's), (Start: 9 @49391 has 2 MA's), (10, 49397), (11, 49406), (14, 49430), (23, 49604), (27, 49625), (30, 49673), (34, 49709), (39, 49739), (48, 49877), (50, 49907),

Gene: Reindeer\_79 Start: 50345, Stop: 50923, Start Num: 5

Candidate Starts for Reindeer\_79:

(Start: 5 @50345 has 20 MA's), (8, 50363), (20, 50600), (23, 50609), (24, 50621), (25, 50624), (28, 50639), (31, 50693), (38, 50720), (47, 50864), (51, 50906), (54, 50918),

Gene: Rey\_84 Start: 51185, Stop: 51778, Start Num: 5

Candidate Starts for Rey\_84:

(Start: 5 @51185 has 20 MA's), (25, 51464), (26, 51467), (28, 51479), (30, 51512), (33, 51539), (34, 51548), (41, 51644), (54, 51773),

Gene: RoseMarie\_83 Start: 52812, Stop: 53417, Start Num: 5

Candidate Starts for RoseMarie\_83:

(Start: 5 @52812 has 20 MA's), (Start: 7 @52818 has 5 MA's), (12, 52893), (17, 52962), (23, 53085), (24, 53097), (27, 53106), (29, 53133), (30, 53154), (39, 53220), (45, 53307),

Gene: Skinny\_81 Start: 50499, Stop: 51101, Start Num: 5

Candidate Starts for Skinny\_81:

(1, 50340), (2, 50412), (3, 50421), (4, 50484), (Start: 5 @50499 has 20 MA's), (Start: 9 @50559 has 2 MA's), (10, 50565), (11, 50574), (14, 50598), (23, 50772), (27, 50793), (30, 50841), (34, 50877), (39, 50907), (48, 51045), (50, 51075),

Gene: SlimJimmy\_76 Start: 49649, Stop: 50260, Start Num: 5

Candidate Starts for SlimJimmy\_76:

(2, 49562), (3, 49571), (4, 49634), (Start: 5 @49649 has 20 MA's), (Start: 9 @49709 has 2 MA's), (10, 49715), (11, 49724), (14, 49748), (23, 49922), (27, 49943), (30, 49991), (34, 50027), (39, 50057), (48, 50195), (50, 50225),

Gene: TpudiCK\_80 Start: 49650, Stop: 50192, Start Num: 9

Candidate Starts for TpudiCK\_80:

(1, 49431), (2, 49503), (3, 49512), (4, 49575), (Start: 5 @49590 has 20 MA's), (Start: 9 @49650 has 2 MA's), (10, 49656), (11, 49665), (14, 49689), (23, 49863), (27, 49884), (30, 49932), (34, 49968), (39, 49998), (48, 50136), (50, 50166),

Gene: TyDawg\_78 Start: 49591, Stop: 50193, Start Num: 5

Candidate Starts for TyDawg\_78:

(1, 49432), (2, 49504), (3, 49513), (4, 49576), (Start: 5 @49591 has 20 MA's), (Start: 9 @49651 has 2 MA's), (10, 49657), (11, 49666), (14, 49690), (23, 49864), (27, 49885), (30, 49933), (34, 49969), (39, 49999), (48, 50137), (50, 50167),

Gene: Wildcat\_90 Start: 54375, Stop: 55052, Start Num: 7

Candidate Starts for Wildcat\_90:

(Start: 7 @54375 has 5 MA's), (13, 54462), (15, 54477), (18, 54558), (19, 54570), (21, 54681), (28, 54717), (32, 54777), (36, 54810), (40, 54864), (41, 54891), (43, 54903), (52, 55014), (55, 55029), (56, 55044),