



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 287010 Report

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

Pham number 287010 has 52 members, 3 are drafts.

Phages represented in each track:

- Track 1 : BrutonGaster\_37
- Track 2 : BrutonGaster\_127
- Track 3 : JonJames\_167, Yvonnetastic\_162
- Track 4 : Yvonnetastic\_46, JonJames\_48
- Track 5 : Malisha\_15
- Track 6 : TBrady12\_102, Marshmallow\_96, Inca\_96, Kimchi\_103, Command613\_101, Stank\_101, DoctorDiddles\_98, Asriel\_97, Phaja\_97, Barbarian\_98, Holt\_104, BigBubba\_99, Argent26\_103, GooberAzure\_102, Xandras\_98, IHOP\_97, Myrale\_99, Gage\_101, Easy2Say\_99, Icee\_100, Kostya\_99, Harella\_99, Nimrod\_99, Balomoji\_99, GoldenSpark\_103, Wiggin\_101, xkcd\_102, YassJohnny\_96, Thimble\_101, 244\_100, Rakim\_100, Youngblood\_102, AmericanBeauty\_103, Gemini\_104, Traaww1\_95, Flypotenuse\_95, Glexan\_98, Bask21\_99, Adnama\_103
- Track 7 : Czyszczonek\_100, Gator\_97
- Track 8 : BarnCat\_6
- Track 9 : RunningOnE\_62
- Track 10 : RunningOnE\_26
- Track 11 : Stellammi\_165

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

The start number called the most often in the published annotations is 30, it was called in 39 of the 49 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_100, Adnama\_103, AmericanBeauty\_103, Argent26\_103, Asriel\_97, Balomoji\_99, Barbarian\_98, Bask21\_99, BigBubba\_99, Command613\_101, DoctorDiddles\_98, Easy2Say\_99, Flypotenuse\_95, Gage\_101, Gemini\_104, Glexan\_98, GoldenSpark\_103, GooberAzure\_102, Harella\_99, Holt\_104, IHOP\_97, Icee\_100, Inca\_96, Kimchi\_103, Kostya\_99, Marshmallow\_96, Myrale\_99, Nimrod\_99, Phaja\_97, Rakim\_100, Stank\_101, TBrady12\_102, Thimble\_101, Traaww1\_95, Wiggin\_101, Xandras\_98, YassJohnny\_96, Youngblood\_102, xkcd\_102,

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

- Czyszczon1\_100, Gator\_97, RunningOnE\_62,

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

- BarnCat\_6, BrutonGaster\_127, BrutonGaster\_37, JonJames\_167, JonJames\_48, Malisha\_15, RunningOnE\_26, Stellammi\_165, Yvonnetastic\_162, Yvonnetastic\_46,

### Summary by start number:

Start 4:

- Found in 2 of 52 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 2 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JonJames\_48 (DD), Yvonnetastic\_46 (DD),

Start 7:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BarnCat\_6 (GB),

Start 8:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BrutonGaster\_37 (CQ2),

Start 14:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BrutonGaster\_127 (CQ2),

Start 18:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Malisha\_15 (DN),

Start 19:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RunningOnE\_26 (UNK),

Start 22:

- Found in 41 of 52 ( 78.8% ) of genes in pham
- Manual Annotations of this start: 2 of 49
- Called 4.9% of time when present
- Phage (with cluster) where this start called: Czyszczon1\_100 (E), Gator\_97 (E),

Start 23:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RunningOnE\_62 (UNK),

Start 26:

- Found in 1 of 52 ( 1.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stellammi\_165 (UNK),

Start 27:

- Found in 2 of 52 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 2 of 49
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JonJames\_167 (DD), Yvonnetastic\_162 (DD),

Start 30:

- Found in 42 of 52 ( 80.8% ) of genes in pham
- Manual Annotations of this start: 39 of 49
- Called 92.9% of time when present
- Phage (with cluster) where this start called: 244\_100 (E), Adnama\_103 (E), AmericanBeauty\_103 (E), Argent26\_103 (E), Asriel\_97 (E), Balomoji\_99 (E), Barbarian\_98 (E), Bask21\_99 (E), BigBubba\_99 (E), Command613\_101 (E), DoctorDiddles\_98 (E), Easy2Say\_99 (E), Flypotenuse\_95 (E), Gage\_101 (E), Gemini\_104 (E), Glexan\_98 (E), GoldenSpark\_103 (E), GooberAzure\_102 (E), Harella\_99 (E), Holt\_104 (E), IHOP\_97 (E), Icee\_100 (E), Inca\_96 (E), Kimchi\_103 (E), Kostya\_99 (E), Marshmallow\_96 (E), Myrale\_99 (E), Nimrod\_99 (E), Phaja\_97 (E), Rakim\_100 (E), Stank\_101 (E), TBrady12\_102 (E), Thimble\_101 (E), Traaww1\_95 (E), Wiggin\_101 (E), Xandras\_98 (E), YassJohnny\_96 (E), Youngblood\_102 (E), xkcd\_102 (E),

### Summary by clusters:

There are 6 clusters represented in this pham: DN, E, DD, GB, CQ2, UNK,

Info for manual annotations of cluster CQ2:

- Start number 8 was manually annotated 1 time for cluster CQ2.
- Start number 14 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster DD:

- Start number 4 was manually annotated 2 times for cluster DD.
- Start number 27 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DN:

- Start number 18 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster E:

- Start number 22 was manually annotated 2 times for cluster E.
- Start number 30 was manually annotated 39 times for cluster E.

Info for manual annotations of cluster GB:

- Start number 7 was manually annotated 1 time for cluster GB.

### **Gene Information:**

Gene: 244\_100 Start: 58683, Stop: 59246, Start Num: 30

Candidate Starts for 244\_100:

(Start: 22 @58608 has 2 MA's), (Start: 30 @58683 has 39 MA's), (39, 58770), (52, 58878), (65, 58986), (69, 59004), (70, 59007), (71, 59052),

Gene: Adnama\_103 Start: 58978, Stop: 59541, Start Num: 30

Candidate Starts for Adnama\_103:

(Start: 22 @58903 has 2 MA's), (Start: 30 @58978 has 39 MA's), (39, 59065), (52, 59173), (65, 59281), (69, 59299), (70, 59302), (71, 59347),

Gene: AmericanBeauty\_103 Start: 59218, Stop: 59781, Start Num: 30

Candidate Starts for AmericanBeauty\_103:

(Start: 22 @59143 has 2 MA's), (Start: 30 @59218 has 39 MA's), (39, 59305), (52, 59413), (65, 59521), (69, 59539), (70, 59542), (71, 59587),

Gene: Argent26\_103 Start: 58902, Stop: 59465, Start Num: 30

Candidate Starts for Argent26\_103:

(Start: 22 @58827 has 2 MA's), (Start: 30 @58902 has 39 MA's), (39, 58989), (52, 59097), (65, 59205), (69, 59223), (70, 59226), (71, 59271),

Gene: Asriel\_97 Start: 57315, Stop: 57878, Start Num: 30

Candidate Starts for Asriel\_97:

(Start: 22 @57240 has 2 MA's), (Start: 30 @57315 has 39 MA's), (39, 57402), (52, 57510), (65, 57618), (69, 57636), (70, 57639), (71, 57684),

Gene: Balomoji\_99 Start: 59098, Stop: 59661, Start Num: 30

Candidate Starts for Balomoji\_99:

(Start: 22 @59023 has 2 MA's), (Start: 30 @59098 has 39 MA's), (39, 59185), (52, 59293), (65, 59401), (69, 59419), (70, 59422), (71, 59467),

Gene: Barbarian\_98 Start: 57315, Stop: 57878, Start Num: 30

Candidate Starts for Barbarian\_98:

(Start: 22 @57240 has 2 MA's), (Start: 30 @57315 has 39 MA's), (39, 57402), (52, 57510), (65, 57618), (69, 57636), (70, 57639), (71, 57684),

Gene: BarnCat\_6 Start: 1575, Stop: 2393, Start Num: 7

Candidate Starts for BarnCat\_6:

(Start: 7 @1575 has 1 MA's), (11, 1623), (29, 1779), (51, 2034), (57, 2082), (62, 2133), (66, 2163), (79, 2256), (80, 2262), (84, 2298), (89, 2334),

Gene: Bask21\_99 Start: 57954, Stop: 58517, Start Num: 30

Candidate Starts for Bask21\_99:

(Start: 22 @57879 has 2 MA's), (Start: 30 @57954 has 39 MA's), (39, 58041), (52, 58149), (65, 58257), (69, 58275), (70, 58278), (71, 58323),

Gene: BigBubba\_99 Start: 58010, Stop: 58573, Start Num: 30

Candidate Starts for BigBubba\_99:

(Start: 22 @57935 has 2 MA's), (Start: 30 @58010 has 39 MA's), (39, 58097), (52, 58205), (65, 58313), (69, 58331), (70, 58334), (71, 58379),

Gene: BrutonGaster\_37 Start: 27677, Stop: 28441, Start Num: 8

Candidate Starts for BrutonGaster\_37:

(Start: 8 @27677 has 1 MA's), (28, 27857), (35, 27935), (48, 28043), (54, 28091), (64, 28175), (71, 28253), (78, 28292),

Gene: BrutonGaster\_127 Start: 75924, Stop: 76652, Start Num: 14

Candidate Starts for BrutonGaster\_127:

(5, 75816), (Start: 14 @75924 has 1 MA's), (20, 75996), (31, 76074), (44, 76212), (46, 76254), (47, 76257), (50, 76269), (72, 76464),

Gene: Command613\_101 Start: 59112, Stop: 59675, Start Num: 30

Candidate Starts for Command613\_101:

(Start: 22 @59037 has 2 MA's), (Start: 30 @59112 has 39 MA's), (39, 59199), (52, 59307), (65, 59415), (69, 59433), (70, 59436), (71, 59481),

Gene: Czyszczone1\_100 Start: 58822, Stop: 59460, Start Num: 22

Candidate Starts for Czyszczone1\_100:

(Start: 22 @58822 has 2 MA's), (Start: 30 @58897 has 39 MA's), (39, 58984), (52, 59092), (65, 59200), (69, 59218), (70, 59221), (71, 59266),

Gene: DoctorDiddles\_98 Start: 58360, Stop: 58923, Start Num: 30

Candidate Starts for DoctorDiddles\_98:

(Start: 22 @58285 has 2 MA's), (Start: 30 @58360 has 39 MA's), (39, 58447), (52, 58555), (65, 58663), (69, 58681), (70, 58684), (71, 58729),

Gene: Easy2Say\_99 Start: 59369, Stop: 59932, Start Num: 30

Candidate Starts for Easy2Say\_99:

(Start: 22 @59294 has 2 MA's), (Start: 30 @59369 has 39 MA's), (39, 59456), (52, 59564), (65, 59672), (69, 59690), (70, 59693), (71, 59738),

Gene: Flypotenuse\_95 Start: 57969, Stop: 58532, Start Num: 30

Candidate Starts for Flypotenuse\_95:

(Start: 22 @57894 has 2 MA's), (Start: 30 @57969 has 39 MA's), (39, 58056), (52, 58164), (65, 58272), (69, 58290), (70, 58293), (71, 58338),

Gene: Gage\_101 Start: 59040, Stop: 59603, Start Num: 30

Candidate Starts for Gage\_101:

(Start: 22 @58965 has 2 MA's), (Start: 30 @59040 has 39 MA's), (39, 59127), (52, 59235), (65, 59343), (69, 59361), (70, 59364), (71, 59409),

Gene: Gator\_97 Start: 58750, Stop: 59388, Start Num: 22

Candidate Starts for Gator\_97:

(Start: 22 @58750 has 2 MA's), (Start: 30 @58825 has 39 MA's), (39, 58912), (52, 59020), (65, 59128), (69, 59146), (70, 59149), (71, 59194),

Gene: Gemini\_104 Start: 59419, Stop: 59982, Start Num: 30

Candidate Starts for Gemini\_104:

(Start: 22 @59344 has 2 MA's), (Start: 30 @59419 has 39 MA's), (39, 59506), (52, 59614), (65, 59722), (69, 59740), (70, 59743), (71, 59788),

Gene: Glexan\_98 Start: 59099, Stop: 59662, Start Num: 30

Candidate Starts for Glexan\_98:

(Start: 22 @59024 has 2 MA's), (Start: 30 @59099 has 39 MA's), (39, 59186), (52, 59294), (65, 59402), (69, 59420), (70, 59423), (71, 59468),

Gene: GoldenSpark\_103 Start: 58902, Stop: 59465, Start Num: 30

Candidate Starts for GoldenSpark\_103:

(Start: 22 @58827 has 2 MA's), (Start: 30 @58902 has 39 MA's), (39, 58989), (52, 59097), (65, 59205), (69, 59223), (70, 59226), (71, 59271),

Gene: GooberAzure\_102 Start: 58902, Stop: 59465, Start Num: 30

Candidate Starts for GooberAzure\_102:

(Start: 22 @58827 has 2 MA's), (Start: 30 @58902 has 39 MA's), (39, 58989), (52, 59097), (65, 59205), (69, 59223), (70, 59226), (71, 59271),

Gene: Harella\_99 Start: 59615, Stop: 60178, Start Num: 30

Candidate Starts for Harella\_99:

(Start: 22 @59540 has 2 MA's), (Start: 30 @59615 has 39 MA's), (39, 59702), (52, 59810), (65, 59918), (69, 59936), (70, 59939), (71, 59984),

Gene: Holt\_104 Start: 59316, Stop: 59879, Start Num: 30

Candidate Starts for Holt\_104:

(Start: 22 @59241 has 2 MA's), (Start: 30 @59316 has 39 MA's), (39, 59403), (52, 59511), (65, 59619), (69, 59637), (70, 59640), (71, 59685),

Gene: IHOP\_97 Start: 58618, Stop: 59181, Start Num: 30

Candidate Starts for IHOP\_97:

(Start: 22 @58543 has 2 MA's), (Start: 30 @58618 has 39 MA's), (39, 58705), (52, 58813), (65, 58921), (69, 58939), (70, 58942), (71, 58987),

Gene: Icee\_100 Start: 58426, Stop: 58989, Start Num: 30

Candidate Starts for Icee\_100:

(Start: 22 @58351 has 2 MA's), (Start: 30 @58426 has 39 MA's), (39, 58513), (52, 58621), (65, 58729), (69, 58747), (70, 58750), (71, 58795),

Gene: Inca\_96 Start: 57107, Stop: 57670, Start Num: 30

Candidate Starts for Inca\_96:

(Start: 22 @57032 has 2 MA's), (Start: 30 @57107 has 39 MA's), (39, 57194), (52, 57302), (65, 57410), (69, 57428), (70, 57431), (71, 57476),

Gene: JonJames\_167 Start: 89129, Stop: 89734, Start Num: 27

Candidate Starts for JonJames\_167:

(1, 88790), (2, 88802), (3, 88832), (6, 88913), (9, 88940), (10, 88949), (13, 88976), (15, 88997), (16, 89009), (17, 89030), (25, 89123), (Start: 27 @89129 has 2 MA's), (32, 89189), (34, 89216), (36, 89234), (38, 89252), (46, 89348), (58, 89450), (61, 89468), (63, 89474), (74, 89576), (76, 89579), (83, 89633), (90, 89681), (92, 89705),

Gene: JonJames\_48 Start: 34709, Stop: 35611, Start Num: 4

Candidate Starts for JonJames\_48:

(Start: 4 @34709 has 2 MA's), (12, 34844), (24, 34949), (37, 35087), (53, 35243), (95, 35603),

Gene: Kimchi\_103 Start: 59043, Stop: 59606, Start Num: 30

Candidate Starts for Kimchi\_103:

(Start: 22 @58968 has 2 MA's), (Start: 30 @59043 has 39 MA's), (39, 59130), (52, 59238), (65, 59346), (69, 59364), (70, 59367), (71, 59412),

Gene: Kostya\_99 Start: 58720, Stop: 59283, Start Num: 30

Candidate Starts for Kostya\_99:

(Start: 22 @58645 has 2 MA's), (Start: 30 @58720 has 39 MA's), (39, 58807), (52, 58915), (65, 59023), (69, 59041), (70, 59044), (71, 59089),

Gene: Malisha\_15 Start: 9435, Stop: 10115, Start Num: 18

Candidate Starts for Malisha\_15:

(Start: 18 @9435 has 1 MA's), (21, 9450), (33, 9567), (40, 9618), (41, 9624), (43, 9654), (55, 9771), (68, 9861), (93, 10062),

Gene: Marshmallow\_96 Start: 59240, Stop: 59803, Start Num: 30

Candidate Starts for Marshmallow\_96:

(Start: 22 @59165 has 2 MA's), (Start: 30 @59240 has 39 MA's), (39, 59327), (52, 59435), (65, 59543), (69, 59561), (70, 59564), (71, 59609),

Gene: Myrale\_99 Start: 59400, Stop: 59963, Start Num: 30

Candidate Starts for Myrale\_99:

(Start: 22 @59325 has 2 MA's), (Start: 30 @59400 has 39 MA's), (39, 59487), (52, 59595), (65, 59703), (69, 59721), (70, 59724), (71, 59769),

Gene: Nimrod\_99 Start: 59367, Stop: 59930, Start Num: 30

Candidate Starts for Nimrod\_99:

(Start: 22 @59292 has 2 MA's), (Start: 30 @59367 has 39 MA's), (39, 59454), (52, 59562), (65, 59670), (69, 59688), (70, 59691), (71, 59736),

Gene: Phaja\_97 Start: 58620, Stop: 59183, Start Num: 30

Candidate Starts for Phaja\_97:

(Start: 22 @58545 has 2 MA's), (Start: 30 @58620 has 39 MA's), (39, 58707), (52, 58815), (65, 58923), (69, 58941), (70, 58944), (71, 58989),

Gene: Rakim\_100 Start: 58852, Stop: 59415, Start Num: 30

Candidate Starts for Rakim\_100:

(Start: 22 @58777 has 2 MA's), (Start: 30 @58852 has 39 MA's), (39, 58939), (52, 59047), (65, 59155), (69, 59173), (70, 59176), (71, 59221),

Gene: RunningOnE\_62 Start: 27956, Stop: 27333, Start Num: 23

Candidate Starts for RunningOnE\_62:

(23, 27956), (Start: 30 @27884 has 39 MA's), (42, 27770), (86, 27434), (87, 27416), (94, 27359),

Gene: RunningOnE\_26 Start: 10549, Stop: 9908, Start Num: 19

Candidate Starts for RunningOnE\_26:

(19, 10549), (42, 10342), (45, 10285), (75, 10075), (88, 9982),

Gene: Stank\_101 Start: 59115, Stop: 59678, Start Num: 30

Candidate Starts for Stank\_101:

(Start: 22 @59040 has 2 MA's), (Start: 30 @59115 has 39 MA's), (39, 59202), (52, 59310), (65, 59418), (69, 59436), (70, 59439), (71, 59484),

Gene: Stellammi\_165 Start: 71654, Stop: 72247, Start Num: 26

Candidate Starts for Stellammi\_165:

(26, 71654), (49, 71879), (56, 71933), (59, 71972), (60, 71975), (67, 72023), (73, 72089), (77, 72101), (81, 72122), (82, 72134), (85, 72158), (91, 72200),

Gene: TBrady12\_102 Start: 58555, Stop: 59118, Start Num: 30

Candidate Starts for TBrady12\_102:

(Start: 22 @58480 has 2 MA's), (Start: 30 @58555 has 39 MA's), (39, 58642), (52, 58750), (65, 58858), (69, 58876), (70, 58879), (71, 58924),

Gene: Thimble\_101 Start: 58305, Stop: 58868, Start Num: 30

Candidate Starts for Thimble\_101:

(Start: 22 @58230 has 2 MA's), (Start: 30 @58305 has 39 MA's), (39, 58392), (52, 58500), (65, 58608), (69, 58626), (70, 58629), (71, 58674),

Gene: Traaww1\_95 Start: 58144, Stop: 58707, Start Num: 30

Candidate Starts for Traaww1\_95:

(Start: 22 @58069 has 2 MA's), (Start: 30 @58144 has 39 MA's), (39, 58231), (52, 58339), (65, 58447), (69, 58465), (70, 58468), (71, 58513),

Gene: Wiggin\_101 Start: 58545, Stop: 59108, Start Num: 30

Candidate Starts for Wiggin\_101:

(Start: 22 @58470 has 2 MA's), (Start: 30 @58545 has 39 MA's), (39, 58632), (52, 58740), (65, 58848), (69, 58866), (70, 58869), (71, 58914),

Gene: Xandras\_98 Start: 58368, Stop: 58931, Start Num: 30

Candidate Starts for Xandras\_98:

(Start: 22 @58293 has 2 MA's), (Start: 30 @58368 has 39 MA's), (39, 58455), (52, 58563), (65, 58671), (69, 58689), (70, 58692), (71, 58737),

Gene: YassJohnny\_96 Start: 57688, Stop: 58251, Start Num: 30

Candidate Starts for YassJohnny\_96:

(Start: 22 @57613 has 2 MA's), (Start: 30 @57688 has 39 MA's), (39, 57775), (52, 57883), (65, 57991), (69, 58009), (70, 58012), (71, 58057),

Gene: Youngblood\_102 Start: 59838, Stop: 60401, Start Num: 30

Candidate Starts for Youngblood\_102:

(Start: 22 @59763 has 2 MA's), (Start: 30 @59838 has 39 MA's), (39, 59925), (52, 60033), (65, 60141), (69, 60159), (70, 60162), (71, 60207),

Gene: Yvonnetastic\_46 Start: 32244, Stop: 33146, Start Num: 4

Candidate Starts for Yvonnetastic\_46:

(Start: 4 @32244 has 2 MA's), (12, 32379), (24, 32484), (37, 32622), (53, 32778), (95, 33138),

Gene: Yvonnetastic\_162 Start: 85216, Stop: 85821, Start Num: 27

Candidate Starts for Yvonnetastic\_162:

(1, 84877), (2, 84889), (3, 84919), (6, 85000), (9, 85027), (10, 85036), (13, 85063), (15, 85084), (16, 85096), (17, 85117), (25, 85210), (Start: 27 @85216 has 2 MA's), (32, 85276), (34, 85303), (36, 85321), (38, 85339), (46, 85435), (58, 85537), (61, 85555), (63, 85561), (74, 85663), (76, 85666), (83, 85720), (90, 85768), (92, 85792),

Gene: xkcd\_102 Start: 60022, Stop: 60585, Start Num: 30

Candidate Starts for xkcd\_102:

(Start: 22 @59947 has 2 MA's), (Start: 30 @60022 has 39 MA's), (39, 60109), (52, 60217), (65, 60325),  
(69, 60343), (70, 60346), (71, 60391),