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Genetic Algorithms Applied to Biological Sequence Analysis

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Submitted in partial fulfillment of the requirements for the Master of Science degree in Bioinformatics at the Rochester Institute of Technology.

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Abstract

Recently biological sequence databases have grown much faster than the ability of researchers to annotate such sequences. Techniques for computational analysis of biological sequences have grown in importance as researchers attempt to understand some features of these sequences. These features are computationally predicted through correlation with the presence of signals, which are measurable characteristics of a sequence correlated with the sequence feature.

This study describes a general methodology for combining the information from signals in order to predict the presence of sequence feature. The methodology is based on Genetic Algorithm, which are a class of computational techniques that borrow concepts from Genetics in order to solve complex problems. The problems of prokaryotic start site prediction and prediction of RNA editing in order to demonstrate these this methodology.

Overview

Analysis of biological sequence data is a common task in Bioinformatics. There is a great deal of literature on the various algorithms that can be applied to biological sequences, including homology searches, phylogenetic classification, and feature prediction. The basic idea behind these algorithms is that there are definable signals within a biological sequence that can be used to predict properties of that sequence and its derivatives. A simple example of this is found when examining coding regions within DNA sequences. Increased CG content within a sequence is correlated with transcription of that sequence, therefore this CG content is a signal for transcription. However, due to the complexity of the transcription process, this signal alone is not sufficient to discriminate between coding and non-coding regions. In order to accurately predict where transcription will occur, analysis of a larger number of factors is necessary.

There is no clear methodology for combining signals from a biological sequence without prior knowledge of the relative importance of each factor. This work demonstrates a simple method based on a Genetic Algorithm for deriving the relative importance of various signals in a biological sequence in order to make inferences about the properties of that sequence. Two separate problems and datasets are used to demonstrate the wide applicability and robustness of this technique.

Function Optimization

The stated problem is to predict the presence or absence of a biological sequence feature that is correlated with a number of underlying signals inherent to that biological sequence. Presence or absence of these signals should be related in some way to the overall quality of the sequence feature. Assuming that all of the signals can be measured through some sort of numerical score, then the combination of the signals into an overall score can be performed as follows:

$P = s1 * w1 + s2 * w2 + \dots sN * wN$

The term *P* represents a scoring function for the entire sequence feature, while *sN* corresponds to the *N*th signal-specific scoring function, and *wN* corresponds to a derived weight for that scoring function. By conceptualizing the problem in this way, it is reduced to a simpler problem: that of optimizing these weights to maximize the scoring difference between "true" and "false" features. The method proposed here is based on a Genetic Algorithm.

Genetic Algorithms (GAs) combine concepts of fitness, natural selection, breeding, crossover, and mutation in order to develop a population of programs that solve specific problems. GAs have been applied to a wide variety of disciplines to evolve an optimal or near-optimal solution to a problem. Parallelism is implicit to the algorithm, and an important characteristic is the ability of genetic algorithms to search through very large sets of possible solutions and is an excellent approach for complex, combinatorial problems (Holland, 1975).

In a Genetic Algorithm each virtual organism represents a putative solution to a given problem. Each organism is encoded as a string containing parameters defining a solution to the problem. This string is called a chromosome. A collection of these organisms is called a population. An organism's "survival" is dependent on its overall "fitness", which is defined as its ability to solve a given problem. By mutating and combining portions of successful organisms in the simulation, Genetic Algorithms leverage knowledge of high-scoring parameters in an attempt to find a good overall solution to the fitness function.

Genetic Algorithm Methodology

For the sake of simplicity, consider the problem of maximizing the number of positive bits found within a binary string of length eight (the "max-bit" problem originally stated in Goldberg, 1989). Randomly generated organisms in this simulation would be something like this:

Organism A: 11011000

Organism B: 01101101

Organism C: 01011100

In this very simple demonstration, it is obvious that the fitness of any organism can be found by simply counting the number of one's in its chromosome. Therefore, the fitness of Organism A is 4, or f(A) = 4, f(B) = 5, and f(C) = 4. While it is clear that the optimal solution to this problem is a string of ones, this "max-bit" problem will be used to illustrate some simple concepts about Genetic Algorithms. Organisms A, B and C will make up a small population that will be used to solve the max-bit problem.

At each of the eight positions along an organism's chromosome, there can be a value of 0 or 1. Therefore, there are 2⁸, or 256, potential solutions to the problem. This set of potential solutions is referred to as the **sample space** for the problem at hand. A great deal of literature on Genetic Algorithms point to their effectiveness in exploring a vast sample space without examining all of the potential possibilities (Goldberg, 1989 and Holland, 1975).

Genetic Algorithms borrow concepts from Genetics, and there is therefore a great deal of terminology common to both subjects. The string "11011000" representing Organism A is called the genome of that organism, or, more commonly, the **chromosome**. Chromosomes in this simulation are restricted to binary digits, so the **alphabet** of available characters is the set {0,1}. A **locus** is

simply a location defined along the chromosome consisting of one or more positions. For example, the first three positions of an organism's chromosome comprise a locus. An **allele** is a set of actual characters at any given locus. The string "110" from Organism A, for example, makes up an allele. A **mutation** is simply a modification of the chromosome. For example, changing the last character of Organism A from zero to one would result in a new organism with a different fitness. **Crossover** is the exchange of genetic material between two organisms, and **death** is the removal of an organism from a population.

A simple GA methodology first proposed by Goldberg (Goldberg, 1988) was utilized in this study. Steps for this algorithm are as follows:

1. Genomes for all members in a population are initialized to random values.

2. Organisms are probabilistically selected for mutation and crossover in a manner proportional to their fitness.

3. Organisms are selected for death in a manner inversely proportional to their fitness.

4. New, randomly generated organisms replace any organisms killed.

Steps 2-4 are repeated until an optimal or near-optimal solution is reached, at which point the algorithm terminates.

One of the most fundamental ideas in Genetic Algorithms is the idea that the fitness of an organism governs how likely it is that the organism's genetic

material will be preserved in future generations. This is a general statement, and in the application of Genetic Algorithms it means that there must be some reasonable means of choosing good organisms for mutation, crossover, and death.

Three evolutionary operators are used to manipulate the population of organisms: mutation, crossover and death. Mutation is used to introduce new genetic material into the simulation, so that the initial step of defining a population does not permanently limit the genetic material available. When using binary strings, a mutation operator is simple and intuitive: a position is selected along the chromosome of an organism for mutation, and then its value is flipped to zero if it were previously one, and to one if it were previously zero.

If it is decided to cross Organism A and Organism B, there are several methods available. The simplest and most often-used method is called single-point crossover (Goldberg, 1989), and follows this simple algorithm:

- To cross two organisms A and B of length N, first randomly pick a number P such that P < N.
- 2. Divide the two organisms at point P along their chromosomes, and exchange the lefthand portion of organism A with the lefthand portion of organism B.

The process is illustrated below with organisms A and B from above crossed with P=5: Organism A: 11011000 (before crossover)

Organism B: 01101101 Organism A: 01101000 (after crossover) Organism B: 11011101

After re-evaluating the fitness of these organisms, it was found that organism A now has a fitness value of 3 (f(A) = 3), while f(B) = 6. By shuffling around bits of successful organisms within the population through crossover, this algorithm has a chance to try novel combinations of previously successful solutions.

There is one important attribute of crossover that merits discussion. Consider Organism A from above:

Organism A: 11011000 Positions: 12345678

Each position along the chromosome is numbered for reference. Assume that we wish to cross this organism with another. With single-point crossover as outlined above, there is a fixed probability that a crossover event will occur at any point along this organism's chromosome. Depending on where crossover

happens, the chromosome can be disrupted in any number of ways. For example, crossover at position 4 will keep the first four positions fixed and bring in new alleles for the last four positions. These first four positions are inherited as a unit, and are therefore said to be linked. Linkage is simply the likelihood that any group of alleles will be inherited together. In this Genetic Algorithm, linkage is positively correlated with distance along the chromosome. This can be simply demonstrated by the observation that there is only one crossover event that can unlink positions 2 and 3, which is a crossover event at position 2. However, there are several events that unlink positions three and eight, including crossover at points 3, 4, 5, 6, and 7. Because all of these crossover events are equi-probable, it is much more likely for positions 3 and 8 to be unlinked than positions 2 and 3. While this observation of linkage between adjacent positions is useful in studying Genetic Algorithms, it should be noted that this is a simplification of the true biological phenomenon. The problem illustrated above is useful in illustrating the concept of coding, another important idea in Genetic Algorithms. Coding is simply the choice of alphabet and genome structure that is used to represent the problem. For example, the binary organisms shown above could be used to optimize a more complex function, in which each binary chromosome represents a base-two number and can be decoded into a more familiar base-ten integer.

The purpose of this study is to use a Genetic Algorithm as a classifier where the classification is derived by optimizing a scoring function of the following form:

$P = s1 * w1 + s2 * w2 + \dots sN * wN$

P represents a scoring function for the entire sequence feature, while *sN* corresponds to the *N*th signal-specific scoring function, and *wN* corresponds to a derived weight for that signal-specific scoring function. Each signal-specific scoring function is fixed, and as stated in **Function Optimization**, our problem is simply that of finding an optimal set of weights so that true positives are separated from true negatives. To use a Genetic Algorithm, the chromosomal structure of the organisms is defined so that each chromosome represents a set of weights:

C = w1, w2, w3, w4, w5, ... wN

These sets of weights will be scored on their ability to assign a high score to sequences that contain a feature, and a low score to sequences that do not.

Start Site Prediction

Background

Following the widespread availability of prokaryotic genome sequences, there have been many efforts to compose gene prediction algorithms that can pick

up on regions of the DNA that are likely to be transcribed into RNA and then translated into protein (Mathe, *et al.* 2002). While these gene-finding algorithms currently find true coding regions, prediction accuracy for the start site of translation ranges from 50-90% (Hannenhalli, *et al.* 1999). Since the amino-terminal region of the protein is known to be important in localization of proteins within the cell, accurate prediction of a protein's final destination can be aided by accurate annotation of that protein's start.

This project was predicated on the development of an extensible and robust algorithm to correctly find translation start sites in the genome sequence of *E.coli K-12*.

Most prokaryotic gene translations consist of an integral open reading frame and rely on the ribosomal binding site (RBS) that contains a specific Shine-Dalgarno sequence (SD), upstream from the translation initiation codon, somewhere within the 5'-untranslated end of the mRNA. The ribosomal complex covers a region on the mRNA from -21 to +12 nucleotides (+1 being the translation start site) that includes base-pairing between the 3' end of the 16S rRNA and the Shine-Dalgarno sequence within the mRNA (Shine, *et al.* 1974 and Stormo, *et al.* 1982). However, it is worth noting that there are genes with leaderless mRNA's found in all three kingdoms that are efficiently translated, so the presence or absence of this signal is not totally informative (Moll, *et al.* 2002). Another difficulty in defining the correct start site is that although the major start codon is AUG, other minor codons, GUG and UUG, are also used, albeit less frequently (Giedroc, *et al.* 2000). Rare start codons, such as AUU, CUG, AAA, GGA, and UGC have also been reported (Alm, *et al.* 1999 and Blattner, *et al.* 1997). Finally, the high frequency of genes overlapping each other on the same strand inherent in prokaryotes complicates the prediction of the start site by obscuring the downstream start site (Mathe, *et al.* 2002 and Walker, *et al.* 2002).

A number of *in silico* approaches have been developed to predict the location of the true protein start site within a coding region. Most employ some scoring function of the so-called Shine-Dalgarno consensus sequence that is used to identify the RBS (Shine, *et al.* 1974). Schurr et al. calculated the binding energy between the 3' end of the 16S rRNA of *Escherichia coli* and the region upstream of the potential start site (Schurr, *et al.* 1993). Hayes and Borodovsky developed a RBS statistical model using the Gibbs sampling method to predict the location of the start site for genes predicted by GeneMark (Hayes, *et al.* 1998) and later by GeneMark.hmm (Besemer, *et al.* 2001). Using the ORPHEUS gene finder program, Frishman and others calculated the strength of the start site based on the positional nucleotide weight for the SD box and the vector of position weight for the distance between the SD box and the start site to predict the start of bacterial genes (Frishman, *et al.* 1999). Another approach

employed multiple features to predict bacterial start sites: RBS binding energy, distance of the SD from the start site, distance from the beginning of the maximum ORF length to the start codon, the start codon itself and the coding/noncoding potential surrounding the start site (Hannenhalli, *et al.* 1999). Shultzaberger and colleagues employed an information theory-based technique allowing for flexibility in the spacing between the SD box and the start site in order to refine gene-start sites in E. coli (Shultzaberger, *et al.* 2001). Walker and others used a hidden Markov model (PROD-HMM) to determine the comparative statistics of the nucleotide substitution rates in coding and noncoding regions surrounding the start site of orthologous gene pairs (Wang, *et al.* 2003).

Data Source

Defining the true start site of a protein requires knowing the amino-terminal protein sequence and this is typically not determined experimentally for most predicted Open Reading Frames (ORFs). However, there is a protein database of laboratory confirmed amino-terminal protein sequence available for *Escherichia coli* called EcoGene (Rudd, *et al.* 2000). EcoGene is a database containing extensive information on the *E. coli K-12* genome and proteome, including information on 839 verified translation start sites that have been verified by N-terminal protein sequencing. This data was prepared for our work by David Russell of LPA Consulting.

In this work, the EcoGene data set was separated into two sets of genes, one from the forward strand and one from the reverse strand of the genome. The 377 verified forward strand genes were used for training, while the 456 reverse strand genes were used for independent validation of the training.

Target Signals

A review of previous studies on start site prediction has led to the assembly of a number of signals that appeared to have some effect on the likelihood that a potential start codon is the true start for translation.

Open Reading Frame - A prokaryotic open reading frame is defined generally as any nucleotide sequence between a start and stop codon that are in-frame, with the start codon being located 5' to the stop codon. Because there are multiple start codons and only one codon for a stop, there are many potential start codons for any given stop codon.

An open reading frame is "wasted" if there is another potential upstream start codon in the same reading frame as the identified start codon that would extend the protein encoding sequence at its 5' end. Prokaryotic genomes tend to be densely populated with coding regions, and so it is reasonable to suppose that large areas of "wasted" potential reading frame are somewhat unlikely.

There should be a preference for start sites that reduce waste - i.e the longest possible ORF.

Ribosomal Binding Site - Synthesis of most proteins in E. coli is dependent on the RBS. Recognition of a SD sequence that base pairs well with the 3' end of 16S rRNA, suggests a possible RBS. However, there are many other factors that come into play, such as the size of SD, the spacer distance between the SD and the start codon, and the composition of the spacer region.

The most time-consuming signal to evaluate is the binding quality of of a putative Shine-Dalgarno sequence to the 3' end of the16S rRNA. In this study, the maximal SD sequence length was limited to 8 nucleotides that would perfectly base pair to AUUCCUCC at the 3' end of 16S RNA. The Gibbs free energy calculation was based on the work of Xia and colleagues (Xia, *et al.* 1999).

Start site codons - None of these signals taken individually is sufficient to accurately rank start sites. It is clear that some signals offer positive evidence for the quality of a potential start site: There is a preference for the start codon being an AUG, rather than a GUG or a UUG in E. coli (Blattner, *et al.* 1997). The SD binding strongly with the 3' end of the 16S RNA is obviously a positive factor. But how should these signals be weighted? Is an AUG start

with a weak Shine-Dalgarno more likely to be the true start than a UUG with a strong Shine-Dalgarno? If so, how much? A spacer region of length 8 nucleotides is a strong indicator of a good start site candidate based on the average length of the verified genes in EcoGene. But how strong is that? Is an AUG with a 15-nucleotide spacer a stronger candidate than a GUG with an 8-nucleotide spacer? What if the second Shine-Dalgarno is very strong compared to the first? There exist other criteria whose influence on potential start site quality is not even vaguely understood. For example, is it good or bad for the spacer region to contain (N)UG triplets? Is it good or bad for the sequence immediately following the potential start to be GC rich?

Methods

Based on a review of the relevant literature, a list of signals relevant to start site prediction was developed. These parameters are listed in Table 1.

Parameter	Feature	Initial Value	Purpose	
1	spacerMin	4	smallest size spacer between SD and Start permitted	
2	spacerMax	18	largest size spacer between SD and Start permitted	
3	HalfWindowSize	4000	defines the context for calculation local CG- content	
4	BigNeg	-10	Default penalty value for undesirable features	
5	SDWeight	1.0	Importance attached to SD guality	
6	AUGReward	5.0	Bonus if Start codon is AUG	
7	GUGReward	2.0	Bonus if Start codon is GUG	
8	UUGReward	1.0	Bonus if Start codon is UUG	
9	IdealSpacerLen	8.0	Preferred size of spacer	
10	SpacerLenPenalty	-0.1	Multiplier for penalizing departure of spacer length from ideal spacer length	
11	WastedOrf	60.0	Average amount of wasted orf before penalty	
12	SecondCodonUG	-3.0	Penalty if second codon is NUG	
13	SpacerHasStart	-0.7	Penalty if spacer region contains a start codon	
14	ButItIsLast	1.0	Revision if that start is the final codon in spacer	
15	Alpha	37.5	Linear parameter for CG weighting	
16	Beta	14.75	Constant parameter for CG weighting	

Table 1: List of signals used for start site prediction in GA simulation, including a brief explanation of the signal and initial values that were estimated in order to seed the simulation with reasonable values. Dr. Robert Zagursky of Wyeth Vaccines proposed the initial list of these parameters, in addition to seeding them with their start values.

While generating this list was relatively simple, there was no comprehensive study in the literature that gave any indication on the value of each of these signals in relation to all of the other signals. This question was alluded to in the previous section as follows:

How can a researcher intelligently combine scores from multiple

signals in order to make reasonable predictions on the presence or absence of a sequence feature?

In this case, the sequence feature is a start site, and the signals are all of the factors that are positively correlated with true start sites. The method used in this study to answer this question is outlined in *Genetic Algorithm Methodology*. *It* assumes that an overall quality score for the sequence feature can be calculated by a linear combination of scoring functions for each signal, with a fixed weight for each signal to weight certain features more importantly than others. This idea yields the following equation:

$P = s1 * w1 + s2 * w2 + \dots wN * sN$

P represents a scoring function for the entire sequence feature, while *sN* corresponds to the *N*th signal-specific scoring function, and *wN* corresponds to a derived weight for that signal-specific scoring function. These weights were calculated by using a Genetic Algorithm to find a set of weights that did well at making the verified start site the most highly scored start site for every EcoGene-verified open reading frame.

This algorithm for start site prediction is called GASP, which is an acronym for a <u>Genetic Algorithm-based Start site Predictor</u>. GASP is defined as a fifteenparameter Genetic Algorithm, with each parameter representing the weight for a particular signal. GASP was coded by Dr. Rhys Price Jones in the Scheme programming language. It evolved as the result of training using the forward strand verified start sites for *E. coli* genes available at EcoGene (Rudd, *et al.* 2000). Independent testing of the algorithm was performed using the reverse strand verified start sites from EcoGene.

GASP is a predictor of start sites that was developed to solve the following problem:

- For each verified stop codon, find all of the start codons that could potentially make up an open reading frame with this stop (the set of all start codons that are both 5' to the stop and do not have an in-frame stop within the open reading frame).
- 2. After the potential start sites have been found, rank them according to the 15-parameter function, and predict that the highest scoring start site is the true start site.

Each organism in the Genetic Algorithm simulation is represented by a 15parameter function that represents a set of weights for the various signals considered in the start site prediction algorithm. Since each weight was literally represented by a number in the chromosome, GASP was evolved by using a real-coded Genetic Algorithm, where there is a one-to-one mapping between real numbers in the organismal chromosome and the weights for the scoring function.

For each gene examined by an organism, the start site predicted is the start codon that scored highest by the combination of weights and signal functions. The population of organisms went through many generations of simulated evolution, and for each generation a set of genes was chosen from the forward strand to be used in evaluating that population. This set was chosen at random, and the size of this set followed a normal distribution centered around 50. By choosing random subsets of genes to evaluate, the number of calculations that were performed in each generation was reduced, and the simulation converged much faster.

In GASP, an organism's fitness is simply given as the percentage of correct start site predictions that were made on the forward strand. For example, an organism that made 25 correct predictions out of 50 genes would be given a fitness value of 25, while an organism that made 20 correct predictions out of 40 genes would be given a fitness value of 20. Although the obvious implication of this fitness definition is that fitness values are not comparable across generations, there is no reason to make such comparisons because the Genetic Algorithm only requires comparable fitness values within a single generation.

For each generation of the simulation, all organisms were sorted according to their fitness. For each generation, mutation was applied to randomly selected organisms, the two most fit organisms were crossed to yield new organisms, and the least fit two organisms were "killed" and removed from the simulation. To mutate an organism, a random position along the organism's chromosome was selected, and the number at that position was replaced by a number randomly selected to be within 80%-120% of the original number. This mutation favored smaller changes rather than larger ones, which may cause the GA simulation to tend towards local rather than global maxima. This potential problem was addressed by re-starting the simulation repeatedly in order to increase population diversity. Organisms were crossed using the single-point crossover outlined in the *Genetic Algorithm Methodology* section.

An initial organism was initialized to values that were thought to be reasonable guesses as to what might constitute a reasonable predictor. Thirty-nine additional organisms were then created by mutating this original organism. For each generation, a number n of gene sequences from EcoGene were randomly chosen as training data. The choice of n was made randomly but followed a bell curve favoring values close to 50. All 40 organisms were tested on the same n gene sequences and a fitness score determined for each organism. The best two organisms were kept unmodified in the population. They were also "mated" to produce two new organisms to be added to the population pool. The worst-performing two organisms were deleted, and the remaining organisms were subjected to random mutation. The resulting population of 40

organisms then proceeded to compete with a new set of gene sequences randomly chosen from the forward strand verified genes.

The process was left to run unattended with population statistics and organisms performance results being stored and monitored periodically. To enhance the probability of successful results, GASP was run on nine different computers, each starting with a different set of organisms. Periodic inspection of the results for allowed the killing of those processes doing poorly and restarting them with organisms from populations on other computers that showed more positive results.

Results

The resulting progress of the GA over 100 generations is shown in Figure 1.



Figure 1: Progressive improvement of a population of organisms, demonstrated by the performance of the best organism from each generation of the population (Price Jones, 2005).

These results were derived from tracking the ability of each organism from one computer to predict the start-sites or genes on the forward strand of E. coli K-12 according to the EcoGene 16 verified set. Originally, the training was performed on subsets of verified start sites for the forward strand of E. coli K-12 as published in EcoGene 14. The First line is the actual number of start-sites correctly predicted with a superimposed logarithmic trend curve. The First or Second line adds in a count of how often the EcoGene-reported start-site rated second place according to the best organism's prediction. This too

has a superimposed logarithmic trend curve. The First (to 1aa) line indicates how often the GA prediction was within one or two amino acid locations of the verified EcoGene location.

This program was restarted on several computers over the course of several weeks. Each time, the starting population was manually initialized based on successful organisms from previous runs. In this way, a set of organisms was identified that performed well on the training data set. Interestingly, the success rate within the first 10 generations increased from 79% to 85%, but then required an additional 90 generations to reach 94% within the independent testing set. It is also of interest that many different organisms had success rates approaching 94% (see Table 2). The GA driver program kept track of a ranking of the potential starts according to the organism. If one was to count the number of times that the verified start-site ranked either first or second, then the success rate approached 98% within the independent testing set.

	Organism								
Signal	А	В	с	D	E	F	G	н	
1 st	4	4	4	4	4	4	4	2	
2 nd	15	15	7	15	8	8	7	9	
3 rd	1433	1433	3238	1433	4000	4000	2504	1932	
4 th	-6.45	-6.45	-9.42	-6.45	-10.23	-10.23	-10	-3.21	
5 th	0.82	0.82	0.72	0.82	0.58	0.58	0.64	0.74	
6 th	4.7	4.7	4.63	4.7	4.77	4.77	4.63	4.54	
7 th	1.83	1.83	1.42	1.83	1.42	1.42	1.42	1.09	
8 th	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.26	
9 th	-0.43	-0.43	-0.19	-0.43	-0.35	-0.35	-0.12	-0.23	
10 th	7.22	7.22	8.07	7.22	8.07	8.07	8.07	7.43	
11 th	36.65	40.69	36.22	36.65	35.73	34.66	38.51	46.58	
12 th	-2.06	-2.06	-2.16	-2.06	-2.24	-2.24	-2.2	-0.94	
13 th	-1.26	-1.26	-1.26	-1.26	-1.21	-1.21	-2.04	-1.12	
14 th	0.58	0.62	1.11	0.58	1.42	1.42	1.01	1.44	
15 th	39.07	39.07	39.42	39.07	42.91	42.91	15.84	10.89	
16 th	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.46	
Accuracy (%)	93.93	93.71	93.28	93.28	93.06	93.06	92.62	91.32	

Table 2: List of high-performing organisms from GASP evolution.

Each organism represents a list of weights for a 16-signal scoring

function, using the signals defined in Table 1. Organisms were evolved on the forward strand verified genes from EcoGene, and were independently tested on the reverse strand verified genes from EcoGene. Accuracies in the table are from testing on the reverse strand.

Discussion

By allowing the weighting of the different criteria to be developed through a progressive, evolutionary process over months of computer time, a good start site predictor was developed without prior knowledge of the relative importance of myriad signals. During this time, convergence toward an optimal start site prediction was achieved iteratively through the use of a fitness function, mutation, and breeding. The percentage of correctly identified start sites within the training set of verified genes increased from 79% to about 94%. Interestingly, several of the best predictors with distinct parameter sets seemed to perform equally well on different sets of genes. It may be that some parameters can fluctuate within a range and still attain good accuracy, or there may be a more subtle interdependence between the slight modifications of these parameters. Study on the uncertain interdependence of these parameters will be the target of future research.

Some of the verified EcoGene genes are inherently unpredictable due to

deviancy from accepted translational norms (Rudd, et al. 2000). Table 3 lists

the intersection of genes that were missed by the best organisms.

ORF Position ^b	Gene	Feature ^c		
1798120	infC	AUU, ET		
518363	tesA	MM		
1260151	prs	UR		
4575528	mcrB	UR		
387977	hemB	UR		
1886085	fadD	UR		
365652	lacl	UR		
3961980	rhlB	UR		
4294798	fdhF	IF, ET		
2536692	cysM	UR		
2689676	purL	MM		
1015175	fabA	UR		
161501	ligT	UR		
4360923	dipZ	UR		
661975	dacA	UR		
157729	pcnB	AUU, ET		
3987438	hemC	UR		
408332	rdgC	UR		
2630624	guaB	UR		
1590200	hipB	MM		
1939675	znuA	UR		
3033204	prfB	FS, ET		
2221958	pbpG	UR		
3571408	asd	UR		
360473	lacA	UR		

Table 3: List of genes that were consistently missed by the highest

performing predictors, along with potential reasons that these genes

may have been missed.

^aList of the EcoGene reverse-strand genes missed by all organisms

tested.

^bNucleotide position of the first base of the stop codon of that gene. ^cMM, successive methionine codons; FS, gene encodes frame-shift mutations; AUU, use of AUU start codon; IF, in-frame stop codon; ET, exceptional translation according to EcoGene annotation. UR, unknown reason GA failed to correctly identify start site.

From this list, explanations for the missed genes can be devised based on EcoGene annotation and inherent sequence features (Price Jones, 2005).

One class of start-sites consistently missed by most organisms was due to successive methionine codons in the E. coli DNA sequence that made it difficult to discriminate the correct start codon. It may be that this distinction is not biologically meaningful. The resulting protein may be able to correctly fold and function with or without both methionines. The signal functions of GASP defined here are not sensitive enough to make a distinction between two successive potential starts, and data on the actual start codon used may not be known or even consistent. A feature in translation of prokaryotic genes that makes identification of the actual first amino acid difficult to define (even by amino acid sequence analysis) is that during initiation of translation, the methionyl moiety carried by the initiator tRNA is N-formylated. After translation, these proteins undergo post-translational modification in a series

of steps. First, the formyl group is removed from most proteins. Next, the methionine residue is removed from about half of the proteins based on the side-chain length of the second amino acid (Hirel, *et al.* 1989). This can result in uncertainty about which successive start codon is actually used during translation, and sequencing of the fully processed protein may not identify the start codon.

Other genes that presented difficulty in finding the correct start-site incorporated a frame-shift in their sequence such as ilvG, ilvD and tatD. Another anomaly that our GA would not be expected to correctly identify are genes that use rare start codons such as AUU, as for example, pcnB and infC. In addition, for those genes that use two different start sites such as clpA and clpB (Seol, *et al.* 1995 and Park, *et al.* 1993), our GA would only find one of the two start sites. Finally, other genes were simply missed with no obvious explanation. Some, such as nmpC, appear to be remnants of phage-encoded genes (Highton, *et al.* 1985) and hence may use alternative means for translation initiation. For example, it is known that the cl repressor gene of bacteriophage lambda is translated from a leaderless mRNA (the AUG start codon is the 5' nucleotide triplet of the cl repressor mRNA) despite the lack of a SD sequence (Moll, *et al.* 1998).

Other genes uniformly missed by our algorithm may have evolved through

lateral gene transfer from other organisms and have not evolved long enough to 'fit' our GA rules for E. coli. Another potential reason for missing genes without a known reason is that these genes may be transcribed at different rates and for different reasons than the majority of the genes in the genome. Study of these missed genes will be the focus of future research in the laboratory of Dr. Rudd, whose goal is complete verification of the entire *E*. *coli K-12* proteome (*personal communication*, July 2003).

Using the best organisms from the evolutionary process, GASP was run against all 4,471 published ORFs in E. coli. Predictions of the most accurate organism are available in the Appendix.

In summary, this work demonstrates that GASP, a start site predictor that is highly parameterized, has been successfully developed. Independent validation of the best organism on the testing set of EcoGene 18 forward-strand ORFs indicates that these organisms are robust when faced with newly verified E. coli genes. In addition to being a very effective classifier, GASP is highly extensible. The addition of an additional signal is simple and straightforward, it only requires a new scoring function and a derivation of an associated weight for that function.

In order to test GASP on other prokaryotic organisms, one could make some

modifications for analysis such as incorporating the SD sequence derived from the 3' end of that organism's 16S rRNA. However, GASP would require a sufficient body of verified start sites for training in order to perform well. Comparable datasets other than E. coli do not exist at this time.

RNA Editing

RNA editing is a process in which certain nucleotides of an RNA sequence are modified following transcription. This is a clear exception to the Central Dogma, which states that DNA is transcribed into RNA, which is then translated into protein. By allowing for a DNA sequence to code for multiple mRNA molecules, RNA editing may explain some of the complexity found in higher organisms.

In the mitochondria of certain plants, pre-translation conversion of cytosine to uracil is relatively common. The mechanism by which this process occurs is currently uncharacterized, although experimental and computational studies have suggested that *cis*-regulatory factors play a role in selecting which cytosines will be edited. The methodology used mirrors the GASP example from above. The derived algorithm is called REGAL, for <u>RNA Editing Prediction by Genetic Algorithm Learning</u>.

The methodologies developed to predict start sites in E. coli K-12 were applied

to analyze cytosine to uracil RNA editing. This editing process has been observed in three separate plant species: *Aradopsis thaliana, Brassica napus*, and *Oryza sativa* (Hiesel, *et al.* 1989, and Cummings, *et al.* 2004). Data on this editing process has been generated by scientists who have compared mitochondrial genomic sequences with sequenced expressed sequence tags (ESTs). For this project, the following GenBank sequence and annotation from the three species were obtained: Arabidopsis thaliana (GenBank accession NC_001284), Brassica napus (GenBank accession AP006644), and Oryza sativa (GenBank accessions AB076665 and AB076666). In addition to genomic sequence, these GenBank files contain annotation on the locations of coding sequences and all verified editing sites in each genome.

Methods

Before prediction of editing could take place, the genomic sequences with editing sites needed to be refactored into a set of coding sequences and their associated editing events. A Perl script utilizing modules from the BioPerl project was used to parse out coding sequences and editing site data from each GenBank file. First, coding sequences were extracted using the CDS FeatureTable entries in each GenBank file. Next, each editing site was assigned to a coding sequence based on the genomic coordinates for that editing site. While there is sometimes overlap between coding sequences in

the plant genomes, this overlap never contained an editing site so that assignment of an editing site to a single coding sequence was unambiguous. There did exist several cases of inconsistent annotation, in which an editing site was not contained within a gene, or the nucleotide at the edited site was not a cytosine in either strand. These inconsistently annotated sites were eliminated from consideration and were not carried over into the editing data sets. Manipulation of the editing data was accomplished using code and modules based on Bioperl, an open-source project for Bioinformatics software (Stajich, *et al.* 2002). The total set of all editing sites and their positions relative to the coding sequences makes up the set of true positives.

Next, a set of true negatives was defined. REGAL as designed for use on novel coding sequences with no prior knowledge of where the editing process occurred. For the set of true negatives, unedited cytosines were selected so that the number of unedited and edited cytosines were equal (e.g, for the *A*. *thaliana* dataset there were 436 unedited cytosines selected to go along with 436 edited sites). A simple program was written that could select unedited cytosines and combine them with the edited cytosines to make a comprehensive testing data set.

The final step in data preparation was to define training and testing datasets. REGAL was developed using all editing site data from the *A. thaliana* genome,
and data from the other two organisms was used for testing and independent validation.

The first step in developing the predictive algorithm for REGAL was the definition of some criteria which could be significant in scoring a potential editing site. These criteria were composed of the following:

- hydrophobicity prior study (Cummings, *et al.* 2004) has noted that RNA editing tends to increase hydrophobicity of the resulting amino acid.
- codon position the original study on RNA editing in *A. thaliana* noted that codon position two is edited more commonly than positions one and three.
- codon transition probability estimated probability that any codon will be edited to yield another codon.
- amino acid transition probability probability than any amino acid will be edited to yield another amino acid.
- upstream nucleotide nucleotide immediately 5' to the edited site.
- downstream nucleotide nucleotide immediately 3' to the edited site.

For each of these factors, a scoring function was defined that would assign a score to any putative editing site. These scoring functions emitted decimal numbers in the range [0,1] based on the empirically observed properties of the true positives from the training data. For example, 53.5% of the *A. thaliana*

editing sites fall in the second codon position, so a putative editing site would receive a score of 0.535 from the scoring function corresponding to codon position. Scoring functions were similarly defined for all of the other characteristics listed above.

Definition of the objective scores was simple and intuitive, but a method for combining these scores into an overall score was not. A lack of detailed knowledge of the editing process and the constraints under which it operates meant there was no good way of judging the relative importance of each factor a priori. The problem of combining the objective functions was formulated in terms of a linear scoring function for scoring putative editing sites, where the scoring function is defined as follows:

s(c) = s1 * w1 + s2 * w2 ...

The term s(c) represents a scoring function for the editing potential of given cytosine, sn corresponds to the nth scoring function and wn corresponds to an integer weight for that scoring function. From this definition, the problem becomes one of function optimization: a need to define a set of weights that will most effectively separate the true positive and true negative groups.

A genetic algorithm (GA) was utilized in order to derive this set of weights. Genetic algorithms represent a class of function optimization techniques that are derived from observations on the genetics of natural selection. In a GA simulation, solutions to the problem at hand are represented as virtual organisms whose genome encodes a specific solution. Performance of organisms is ranked according to a fitness function, and data on the fitness of organisms in the population is used to select organisms for mutation, breeding and death. By applying genetic operators to organisms in a manner corresponding to their fitness, the GA will converge to an optimal or near optimal solution relatively quickly (Goldberg, 1989).

Definition of a fitness function for evaluating individual members of a population is perhaps the most crucial step in composing a Genetic Algorithm. In differentiating between edited and non-edited sites, the goal was to derive a scoring function that achieved maximal discrimination between the edited and non-edited groups of cytosines. Several conceptual definitions of fitness were considered before finally settling on the following:

f(O) = avg. score(edited) / avg. score(unedited)

This fitness function rewards organisms that score edited sites more highly than non-edited sites, making it a good choice for evaluating the performance of one predictor as compared to another. This function will encourage the GA to develop organisms that differentially score edited and unedited sites.

Code for the Genetic Algorithm was implemented in the Perl programming language. Organisms in REGAL were represented using a 96-bit binary genome, with 16 continuous binary numbers representing a single weight for a scoring function (Figure 2).

Chromosome:

Decoded Weights:

0011110001001111 => 28605 (codon_transition) 1110001110110010 => 9987 (plus_one_nuc) 1011110111110110 => 24871 (hydrophobicity) 0111001001000011 => 62012 (aa_transition) 0011111011011110 => 48574 (codon_position) 1100000011100100 => 19911 (minus_one_nuc)

Figure 2: Binary genome representation of an organism in Genetic Algorithm and its corresponding set of decoded weights. Each differently colored region is 16 bits long, and corresponds to the relative weight of an objective function. During every generation of the REGAL simulation, each organism is selected for mutation, crossover or death based on a measure of its fitness.

REGAL was run for 2500 iterations with a population size of 50, by which time it had reached a near-optimal solution and showed no signs of improvement. Statistics on the evolutionary process were kept, including the best solutions from each generation along with average and best fitness measurements from each generation. Upon completion of a simulation, the most fit organisms from each generation and their associated fitness values were stored in a MySQL database for later examination.

Results

The Genetic Algorithm for this simulation was seeded using randomly generated organisms. While the simulation was running, a graph of the evolutionary process was updated every ten generations in order to visualize its progress. An example of this graphic is shown in Figure 3 below.



Figure 3: Graph demonstrating the evolutionary progress of a population of classifiers in REGAL. Each organism in population represents a classifier for scoring edited and unedited cytosine nucleotides, and the fitness of any organism is given by the average score of the edited cytosines divided by the average score of the unedited cytosines. The red line represents the average performance of organisms within the simulation, and the blue line represents the performance of the most fit organism within the simulation.

Following the simulation, organisms from the MySQL database were examined, and the organism with the highest fitness value was made the set of weights to be used in REGAL. The threshold for discriminating between an edited and non-edited site was set at a number that gave a maximal accuracy score on the training data set. This organism's weights and threshold are listed below:

Parameter	Value		
codon_transition	28605		
plus_one_nuc	9987		

Parameter	Value		
hydrophobicity	24871		
aa_transition	62012		
codon_position	48574		
minus_one_nuc	19911		

Table 4: Listing of parameters and their weights in the REGAL algorithm for prediction of RNA editing. Each weight was derived by using a Genetic Algorithm for optimization of a linear scoring function, and a threshold value of 32000 was chosen that gives a maximal accuracy on the training data.

Next, REGAL was tested on editing data from all three organisms. As the number of unedited cytosines is far greater than the number of edited cytosines in all three cases, the random selection process for true negatives was repeated 100 times, and REGAL was tested on each of these 100 randomly generated datasets. Statistics of central tendency and spread were recorded for the sensitivity, selectivity and accuracy of REGAL.

Organism	Accuracy	σ^2 (Accuracy)	Sensitivity	Selectivity
Arabidopsis thaliana	0.873	6.839 x 10^-3	0.812	0.932
Brassica napus	0.847	5.58 x 10^-3	0.769	0.926
Oryza sativa	0.870	6.15 x 10^-3	0.810	0.930

Table 5: Accuracy statistics for REGAL, including standard deviation calculations for accuracy. Equal numbers of edited and non-edited cytosines from each organism were selected randomly, such that the number of nonedited cytosines were equal to that of the edited cytosines. Accuracy measurements were taken with 100 randomly selected groups of non-edited cytosines.

After measurements of accuracy were taken, a receiver operating characteristic curve was graphed for REGAL as a classifier. This curve examines the rates of true positive occurrence to false positive occurrence for a classifier as the threshold for a positive test is changed. The relationship between true positives and false positives is graphed alongside that of a random classifier.



Figure 4: Receiver operating characteristic curve of GA operating as a classifier between edited and unedited cytosine residues in the *A. thaliana* mitochondrial genome. Classifier was run on all 436 edited cytosines combined with a randomly selected group of 436 unedited cytosines. The red line denotes the performance of REGAL and is contrasted with the performance of a random classifier, represented by the blue line.

Discussion

The results of this experiment compare favorably with the only other computationally published algorithm for RNA editing prediction (Cummings, *et al.* 2004). That study utilized both classification trees and random forests that

analyzed codon position, the nucleotides in a 40-base pair window around each cytosine, and the folding energy of the transcribed mRNA within the same 41bp window. Accuracy numbers for this study are shown in Table 6.

	Clas	Classification Tree		Random Forests			REGAL
Organism	Accuracy	Sensitivity	Selectivity	Accuracy	Sensitivity	Selectivity	Accuracy
A. thaliana	0.711	0.645	0.888	0.744	0.701	0.811	0.873
B. napus	0.693	0.630	0.887	0.765	0.733	0.808	0.847
O. sativa	0.709	0.640	0.882	0.722	0.716	0.808	0.870

Table 6: Accuracy statistics for random forest method for predicting RNA editing through random forests and classification trees (Cummings, *et al.* 2004), contrasted with accuracies of with REGAL method. Equal numbers of edited and non-edited cytosines from each organism were selected, such that the number of non-edited cytosines were equal to that of the edited cytosines.

When the accuracy statistics from the tree and random-forest methods (Cummings, *et al.* 2004) were compared to REGAL, REGAL showed a decided advantage, with the accuracy on the all sets of data being significantly higher (see Table 6). Additionally, the ROC curve for REGAL demonstrates that the classifier has relatively small false positive and false negative rates across a high range of threshold values, which is characteristic of an effective and robust classifier.

Due to the lack of information on this process, it is difficult to explain the results of REGAL in any more depth. However, this algorithm is likely to be useful in predicted editing sites previously missed in *A. thaliana*, *B. napus*, and *O. sativa*, and may prove useful in examining this editing process in other related organisms. Data and software used in this study is available from the author upon request.

Conclusions

There are many sequence features that are studied in Bioinformatics, including binding sites, translational start sites, RNA editing sites, secondary structure domains, and regulatory sites. Genetic algorithms represent a class of function optimization techniques that are derived from observations on the genetics of natural selection. This work demonstrates a general method based on Genetic Algorithms for deriving the relative importance of various signals in a biological sequence in order to make inferences about the occurrence of features in a novel sequence. In a GA simulation for this purpose, solutions to the problem at hand are represented as virtual organisms whose genome encodes a specific solution. Performance of organisms is ranked according to a fitness function, and data on the fitness of organisms in the population is used to select organisms for mutation, breeding and death. By applying genetic operators to organisms in a manner corresponding to their fitness, the GA will converge to an optimal or near optimal solution relatively quickly (Goldberg, 1989). One major advantage of this methodology is that addition of new knowledge into the solution is extremely straightforward, it requires only the definition of a new signal scoring function and a calculation of the relative weight of that scoring function.

This methodology is applicable to a wide set of problems, as is demonstrated by the two problems in this study. Both start site prediction and RNA editing are different processes in the terms of currently available knowledge, yet this methodology has generated superior predictors for both problems. These results suggest that a GA-optimized scoring function can be used to guide examination into interesting locations within a biological sequence. For example, REGAL could very likely be used to find cytosine nucleotides likely to be edited within related plant mitochondrial genomes.

By leveraging knowledge about the co-occurrence of sequence signals and sequence features, it is possible to develop a scoring methodology that can be used for prediction of the sequence features in previously unannotated sequences. Algorithms of this type can be of great use in computational

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annotation of biological sequences, and can also serve to guide the efforts of laboratory researchers by providing rational estimates for where a sequence feature is likely to occur. This interplay between computational and laboratory-based research has the potential to reduce the costs associated with doing biological research, thereby increasing the pace of modern science.

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Appendix: Ranked Start Site Predictions of GASP on *E. coli K-12* Genome This appendix lists predictions of our genetic algorithm on the entire *E. coli* genome. The top three predicted start sites are listed in a human-readable format, one per line. The file is divided into two predictions on both the Forward and Reverse strands of the *E. coli K-12* genome (GenBank accession U00096). An excerpt of the data is listed below:

FORWARD STRAND:

Stop 255 One prediction (190 2.4)
Stop 2799 First (337 6.6) Second (433 -2.96) Third (343 -3.52)
Stop 3733 First (2801 7.7) Second (2855 0.39) Third (2837 -0.64)
Stop 59279 Two predictions First (59121 -2.36) Second (59262 -7.62)

Each line lists a stop location a ranked set of predicted ORFs in the format *(startsite quality),* where *startsite* is the index of the first nucleotide in the start codon, and *quality* is the quality score given to the ORF with that start. Some ORFs only have one candidate start site considered, such as the ORF from 190 - 255.

FORWARD STRAND: Stop 255 One prediction (190 2.4) Stop 2799 First (337 6.6) Second (433 -2.96) Third (343 -3.52)

Stop 3733 First (2801 7.7) Second (2855 0.39) Third (2837 -0.64) Stop 5020 First (3734 6.8) Second (3869 -3.91) Third (3800 -4.8) Stop 5530 First (5234 6.08) Second (5243 3.04) Third (5288 -3.19) Stop 9191 First (8238 3.48) Second (8307 1.95) Third (8250 -1.21) Stop 9893 First (9306 4.15) Second (9498 -0.7) Third (9303 -0.84) Stop 11315 First (10830 2.83) Second (11082 -5.18) Third (10881 -7.5) Stop 14079 First (12163 7.7) Second (12217 0.97) Third (12490 -3.11) Stop 15298 First (14168 4.92) Second (14402 -3.84) Third (14138 -5.92) Stop 16557 First (15445 0.27) Second (15439 -0.13) Third (15607 -6.74) Stop 18655 First (17489 2.8) Second (17570 -2.1) Third (17690 -2.72) Stop 19620 First (18715 7.76) Second (18721 6.38) Third (18781 -0.94) Stop 21399 First (21181 3.68) Second (21301 -2.7) Third (21307 -3.86) Stop 22348 First (21407 2.33) Second (21461 -4.24) Third (21488 -4.99) Stop 25207 First (22391 3.4) Second (22439 2.56) Third (22472 -3.92) Stop 25701 First (25207 2.98) Second (25252 -6.84) Third (25261 -7.44) Stop 26275 First (25826 4.03) Second (25994 -1.1) Third (25982 -2.18) Stop 27227 First (26277 5.97) Second (26232 -1.45) Third (26238 -5.48) Stop 28207 First (27293 6.62) Second (27494 -4.1) Third (27389 -4.72) Stop 29195 First (28374 5.36) Second (28422 5.05) Third (28470 -2.4) Stop 30799 First (29651 2.91) Second (29624 -1.09) Third (29669 -1.87) Stop 34038 First (30817 7.88) Second (30994 -4.51) Third (30979 -5.55) Stop 34695 First (34300 3.45) Second (34480 -4.97) Third (34354 -5.34) Stop 43173 First (42403 3.43) Second (42367 0.35) Third (42385 -0.49) Stop 44129 First (43188 5.42) Second (43248 1.88) Third (43374 -1.92) Stop 45466 First (44180 8.3) Second (44270 -0.73) Third (44435 -2.39) Stop 45750 First (45463 6.35) Second (45580 -3.34) Third (45628 -4.94) Stop 47138 First (45807 6.25) Second (45786 -2.2) Third (46059 -3.46) Stop 47776 First (47246 4.69) Second (47303 -1.84) Third (47438 -7.82) Stop 49631 First (47769 6.21) Second (47697 -1.72) Third (47913 -2.48) Stop 50302 First (49823 2.03) Second (49712 1.45) Third (49688 -1.24) Stop 51546 First (51160 5.03) Second (51232 -2.14) Third (51193 -2.26) Stop 58179 First (57364 5.64) Second (57391 -0.68) Third (57319 -1.37) Stop 59124 First (58474 5.75) Second (58558 1.83) Third (58495 -0.21) Stop 59279 Two predictions First (59121 -2.36) Second (59262 -7.62) Stop 71265 First (70387 7.56) Second (70336 -0.34) Third (70378 -1.01) Stop 72115 First (71351 4.49) Second (71402 -2.8) Third (71555 -3.69) Stop 77748 First (77497 3.37) Second (77521 -2.94) Third (77536 -4.79) Stop 78799 First (77621 3.89) Second (77639 2.13) Third (77633 0.8) Stop 85312 First (84368 2.71) Second (84350 1.61) Third (84209 0.74) Stop 87354 First (85630 2.19) Second (85588 2.14) Third (85654 1.39) Stop 87848 First (87357 5.93) Second (87327 2.23) Third (87411 -1.8) Stop 87946 First (87860 3.01) Second (87851 0.6) Third (87881 -1.74) Stop 89032 First (88028 4.04) Second (88142 -1.48) Third (88115 -3.54) Stop 90092 First (89634 6.56) Second (89610 2.96) Third (89685 0.94) Stop 91035 First (89995 1.37) Second (89983 -0.01) Third (90094 -1.73) Stop 91397 First (91032 5.05) Second (91077 2.85) Third (91044 -1.81) Stop 93179 First (91413 5.7) Second (91587 0.22) Third (91572 -3.51) Stop 94653 First (93166 4.41) Second (93238 0.84) Third (93181 -0.86) Stop 96008 First (94650 5.86) Second (94998 -9.96) Third (94953 -12.96) Stop 97084 First (96002 5.9) Second (96131 -1.86) Third (96233 -2.78) Stop 98403 First (97087 4.06) Second (97201 -1.19) Third (97150 -2.71) Stop 99647 First (98403 7.79) Second (98400 2.06) Third (98493 0.79) Stop 100711 First (99644 5.61) Second (99668 4.21) Third (99776 0.14)

Stop 102240 First (100765 2.22) Second (100780 -1.39) Third (100810 -1.83) Stop 103153 First (102233 9.57) Second (102467 -1.92) Third (102404 -2.41) Stop 103985 First (103155 5.63) Second (103299 -1.42) Third (103416 -1.47) Stop 105244 First (103982 3.07) Second (104075 -3.26) Third (104192 -3.46) Stop 106456 First (105305 6.94) Second (105317 0.4) Third (105389 -3.58) Stop 107474 First (106557 5.35) Second (106737 -3.75) Third (106866 -4.13) Stop 108217 First (107705 -0.93) Second (107552 -3.08) Third (107795 -5.84) Stop 110984 First (108279 6.69) Second (108381 1.2) Third (108348 0.01) Stop 111433 First (111044 4.76) Second (111167 -2.14) Third (111128 -4.97) Stop 114487 First (113444 4.52) Second (113627 -0.89) Third (113603 -4.19) Stop 119284 First (118733 6.08) Second (118736 2.62) Third (118940 -6.96) Stop 120135 First (119281 7.74) Second (119416 -0.78) Third (119332 -2.71) Stop 122856 First (122092 4.63) Second (122059 -0.19) Third (122155 -1.52) Stop 125680 First (123017 8.19) Second (123290 -2.79) Third (123041 -4.46) Stop 127587 First (125695 7.83) Second (125824 0.24) Third (125764 -1.5) Stop 129336 First (127912 4.61) Second (127879 2.12) Third (127909 -1.62) Stop 134212 First (131615 1.08) Second (131462 -0.33) Third (131693 -1.36) Stop 134750 First (134388 5.2) Second (134340 2.48) Third (134430 0.71) Stop 138633 First (137083 7.74) Second (137044 -0.68) Third (137050 -4.6) Stop 141967 First (141419 0.93) Second (141431 0.23) Third (141452 0.06) Stop 143705 First (142779 6.26) Second (142854 0.9) Third (142998 -3.05) Stop 144472 First (143705 6.5) Second (143702 5.63) Third (143762 2.15) Stop 145017 First (144577 10.69) Second (144703 1.04) Third (144718 -6.37) Stop 146310 First (145081 -0.69) Second (145156 -2.03) Third (145204 -4.41) Stop 146856 First (146644 -5.33) Second (146632 -8.5) Third (146464 -8.53) Stop 147870 First (146968 2.52) Second (147019 -0.52) Third (147058 -1.47) Stop 164534 First (162105 3.1) Second (162060 1.87) Third (162114 -8.03) Stop 167264 First (164730 7.83) Second (164865 3.57) Third (164715 -1.7) Stop 169727 First (167484 1.91) Second (167562 -7.58) Third (167754 -11.1) Stop 170575 First (169778 -0.67) Second (169736 -1.87) Third (169856 -5.37) Stop 171465 First (170575 1.73) Second (170572 -3.43) Third (170710 -5.69) Stop 173444 First (171462 6.96) Second (171510 -3.41) Third (171615 -3.47) Stop 176528 First (175107 3.02) Second (175218 -1.16) Third (175212 -4.92) Stop 176954 First (176610 7.42) Second (176577 2.74) Third (176787 -0.87) Stop 180754 First (179237 5.84) Second (179423 -6.02) Third (179462 -6.65) Stop 182308 First (180884 4.81) Second (180932 -0.56) Third (181013 -2.83) Stop 183620 First (182463 8.99) Second (182490 1.85) Third (182505 1.63) Stop 190599 First (189874 2.58) Second (189952 -2.91) Third (189811 -3.1) Stop 191708 First (190857 8.07) Second (190917 0.54) Third (190977 -3.79) Stop 192580 First (191855 6.53) Second (191963 1.05) Third (192089 -2.35) Stop 193429 First (192872 3.74) Second (192908 0.89) Third (192995 -3.52) Stop 194717 First (193521 3.85) Second (193581 -4.06) Third (193812 -5.26) Stop 195664 First (194903 1.28) Second (194906 0.67) Third (194975 -2.29) Stop 196534 First (195677 1.97) Second (195707 -1.53) Third (195872 -4.91) Stop 197898 First (196546 2.71) Second (196606 -1.97) Third (196567 -2.61) Stop 200360 First (197928 2.27) Second (198003 1.34) Third (197934 -0.13) Stop 200967 First (200482 6.26) Second (200683 -1.87) Third (200566 -4.89) Stop 201996 First (200971 6.24) Second (201094 1.17) Third (201151 -3.25) Stop 202556 First (202101 -0.32) Second (202008 -2.66) Third (202308 -4.41) Stop 203348 First (202560 7.77) Second (202581 -1.66) Third (202599 -3.58) Stop 204496 First (203348 1.54) Second (203483 -1.61) Third (203444 -3.42) Stop 205089 First (204493 7.02) Second (204688 -6.13) Third (204805 -7.24) Stop 208608 First (205126 5.61) Second (205231 -2.33) Third (205174 -3.79)

Stop 209580 First (208621 7.2) Second (208738 -3.6) Third (209128 -9.42) Stop 211820 First (209679 9.99) Second (209697 -0.16) Third (209757 -0.58) Stop 212266 First (211877 3.35) Second (211850 -2.49) Third (211931 -3.97) Stop 213629 First (212331 1.49) Second (212379 -5.37) Third (212556 -5.79) Stop 214836 First (214291 10.11) Second (214411 0.92) Third (214408 -1.26) Stop 215255 First (214833 -1.49) Second (214839 -3.59) Third (215037 -9.27) Stop 215979 First (215269 1.75) Second (215272 1.44) Third (215296 -1.48) Stop 223408 First (222833 7.58) Second (222965 2.39) Third (222947 -3.32) Stop 229970 First (229167 7.48) Second (229230 -5.0) Third (229497 -5.59) Stop 231922 First (231122 -0.06) Second (231143 -3.01) Third (231263 -3.98) Stop 232549 First (231926 2.75) Second (232022 -1.41) Third (231986 -2.23) Stop 235538 First (234816 0.15) Second (234870 -3.78) Third (234813 -4.22) Stop 236798 First (236058 2.97) Second (236067 1.98) Third (236118 -1.99) Stop 238120 First (237335 7.9) Second (237635 -3.04) Third (237623 -3.47) Stop 240816 First (240343 11.01) Second (240370 8.34) Third (240367 1.7) Stop 244121 First (243543 2.49) Second (243525 -4.77) Third (243510 -7.64) Stop 245094 First (244327 6.8) Second (244345 -5.25) Third (244336 -7.33) Stop 247461 First (246757 -0.66) Second (246652 -2.21) Third (246712 -2.82) Stop 248134 First (247637 6.7) Second (247736 -2.36) Third (247718 -3.31) Stop 250827 First (250057 -6.48) Second (249937 -6.94) Third (249979 -7.33) Stop 251953 First (250898 6.69) Second (250916 -0.33) Third (250922 -1.25) Stop 252298 First (252005 8.1) Second (252152 -1.12) Third (252158 -2.7) Stop 252699 First (252301 8.18) Second (252652 -4.83) Third (252400 -5.15) Stop 253161 First (252709 4.07) Second (252787 1.99) Third (252946 -4.15) Stop 253733 First (253467 6.03) Second (253479 3.86) Third (253611 -2.94) Stop 254202 First (253645 -1.9) Second (253702 -6.06) Third (253666 -6.42) Stop 256435 First (255977 6.06) Second (256046 0.15) Third (256010 -1.18) Stop 257771 First (256527 8.4) Second (256689 -3.13) Third (256749 -3.48) Stop 258230 First (257829 6.99) Second (258000 -1.9) Third (257862 -2.74) Stop 260715 First (259612 1.8) Second (259753 -4.69) Third (259525 -5.42) Stop 261980 First (260727 6.16) Second (260739 4.49) Third (260910 -4.21) Stop 263510 First (263070 6.07) Second (262992 3.01) Third (263010 2.58) Stop 269870 First (269502 4.71) Second (269466 -1.15) Third (269823 -3.44) Stop 270978 First (269827 9.91) Second (269944 1.7) Third (270037 -2.5) Stop 271479 First (271054 0.21) Second (271240 0.16) Third (271216 -3.83) Stop 273216 First (272071 2.8) Second (272086 1.98) Third (272248 -1.39) Stop 275952 First (274549 7.74) Second (274525 6.62) Third (274588 0.2) Stop 276871 First (275939 3.63) Second (275876 -2.02) Third (275873 -2.71) Stop 282410 First (281502 8.66) Second (281481 5.47) Third (281517 -10.92) Stop 284392 First (282425 1.65) Second (282704 -4.97) Third (282710 -5.84) Stop 286001 First (284619 9.31) Second (284751 3.47) Third (284634 1.4) Stop 287623 First (286013 9.87) Second (286121 -7.11) Third (286373 -8.01) Stop 289862 First (289647 3.35) Second (289734 0.75) Third (289782 0.27) Stop 291455 First (290724 0.2) Second (290763 -1.6) Third (290769 -5.18) Stop 302829 First (302215 6.67) Second (302329 2.07) Third (302353 -4.52) Stop 311563 First (311336 4.06) Second (311396 3.3) Third (311444 -0.89) Stop 314468 First (313581 4.76) Second (313749 -5.11) Third (313707 -5.31) Stop 314814 First (314515 6.45) Second (314506 -2.3) Third (314710 -3.55) Stop 315677 First (314811 2.34) Second (314862 -3.32) Third (314871 -4.35) Stop 317795 First (317526 -3.79) Second (317652 -4.06) Third (317607 -6.03) Stop 320305 First (319451 7.15) Second (319475 -0.26) Third (319607 -1.24) Stop 321551 First (320832 3.14) Second (320883 0.52) Third (321006 -2.29) Stop 322989 First (321562 7.44) Second (321628 1.18) Third (321682 0.51)

Stop 323677 First (322982 4.5) Second (322856 2.24) Third (322829 1.8) Stop 330720 First (328687 6.06) Second (328732 -0.78) Third (328765 -2.08) Stop 332683 First (331595 3.8) Second (331589 0.19) Third (331703 -0.93) Stop 334556 First (334500 -2.29) Second (334323 -2.29) Third (334383 -4.11) Stop 335109 First (334504 6.67) Second (334537 -4.92) Third (334945 -10.03) Stop 336012 First (335149 -2.45) Second (335404 -8.62) Third (335443 -9.69) Stop 337549 First (336002 9.72) Second (336113 -0.51) Third (336056 -0.63) Stop 338967 First (337549 9.69) Second (337678 1.8) Third (337876 -0.67) Stop 339313 First (338939 -0.53) Second (338888 -1.5) Third (338993 -3.41) Stop 340339 First (339389 4.6) Second (339401 -1.69) Third (339476 -5.93) Stop 341731 First (340349 7.51) Second (340397 2.68) Third (340487 -1.4) Stop 343157 First (342108 8.76) Second (342159 -0.79) Third (342300 -4.12) Stop 344215 First (343400 1.89) Second (343433 -1.72) Third (343700 -6.6) Stop 344873 First (344628 4.31) Second (344733 1.72) Third (344838 0.53) Stop 345983 First (345708 6.64) Second (345726 1.17) Third (345780 -1.35) Stop 348796 First (347906 5.38) Second (347963 -1.83) Third (348215 -6.68) Stop 350405 First (349236 3.88) Second (349293 -5.0) Third (349563 -5.84) Stop 351890 First (350439 6.87) Second (350532 -3.52) Third (350508 -5.15) Stop 353816 First (351930 8.73) Second (352086 -4.37) Third (352272 -5.9) Stop 355405 First (354146 8.16) Second (354212 0.64) Third (354206 -2.32) Stop 356678 First (355395 6.54) Second (355380 -2.27) Third (355569 -6.56) Stop 358682 First (358023 3.48) Second (358086 -2.3) Third (358302 -5.78) Stop 359183 First (358713 7.32) Second (358767 -5.54) Third (358992 -6.83) Stop 360370 First (359309 -0.25) Second (359189 -0.3) Third (359216 -0.52) Stop 369499 First (367835 8.31) Second (367922 1.22) Third (367982 -0.96) Stop 370445 First (369501 5.9) Second (369588 0.19) Third (369756 -3.85) Stop 371329 First (370463 5.4) Second (370448 4.56) Third (370460 1.23) Stop 372148 First (371339 6.28) Second (371333 -0.58) Third (371519 -1.01) Stop 373095 First (372145 5.64) Second (372331 0.8) Third (372244 0.17) Stop 374105 First (373092 1.56) Second (373128 -5.65) Third (373140 -6.36) Stop 375894 First (374683 6.91) Second (374638 -0.17) Third (374746 -1.99) Stop 376535 First (375996 -6.68) Second (375879 -13.08) Third (376023 -13.83) Stop 380940 First (380575 5.49) Second (380530 -0.55) Third (380662 -1.24) Stop 381803 First (380898 2.33) Second (381012 -2.35) Third (380979 -4.36) Stop 385418 First (384456 6.76) Second (384399 3.62) Third (384522 -2.81) Stop 386198 First (385431 7.54) Second (385737 -3.2) Third (385521 -3.59) Stop 387022 First (386195 10.19) Second (386201 1.16) Third (386408 -0.89) Stop 387870 First (387019 4.38) Second (387268 -11.79) Third (387151 -11.87) Stop 390935 First (389475 11.4) Second (389616 2.78) Third (389517 -3.43) Stop 393642 First (392344 -5.47) Second (392239 -5.56) Third (392245 -6.03) Stop 394353 First (393730 5.21) Second (393685 3.33) Third (393940 -1.96) Stop 397083 First (395863 7.26) Second (395965 1.8) Third (395857 0.08) Stop 398190 First (397096 8.58) Second (397180 -2.72) Third (397219 -3.37) Stop 399029 First (398685 2.19) Second (398817 1.5) Third (398748 -1.63) Stop 400870 First (400610 8.15) Second (400694 -1.36) Third (400727 -3.32) Stop 402386 First (400971 2.32) Second (401046 0.07) Third (400929 -2.14) Stop 402825 First (402505 5.71) Second (402487 0.1) Third (402664 -0.93) Stop 404042 First (402927 5.39) Second (402942 0.48) Third (403272 -4.0) Stop 405446 First (404988 3.89) Second (405060 -1.27) Third (405066 -2.21) Stop 406153 First (405629 4.72) Second (405686 -1.9) Third (405755 -5.05) Stop 406394 First (406203 7.51) Second (406353 0.51) Third (406242 0.19) Stop 407329 First (406652 5.45) Second (406706 0.78) Third (406664 -0.79) Stop 407685 First (407401 5.39) Second (407488 2.18) Third (407533 -0.02)

Stop 408174 First (407971 -6.63) Second (408109 -7.68) Third (407893 -8.14) Stop 410276 First (409368 2.22) Second (409242 1.61) Third (409281 -1.16) Stop 410497 First (410300 0.88) Second (410444 -0.7) Third (410402 -1.3) Stop 417055 First (416366 5.49) Second (416414 -0.3) Third (416528 -4.68) Stop 418408 First (417113 1.74) Second (417299 -2.03) Third (417143 -2.23) Stop 420134 First (418860 4.62) Second (418815 4.4) Third (418908 -3.15) Stop 421583 First (420210 5.64) Second (420207 0.12) Third (420402 -0.78) Stop 423556 First (421742 7.52) Second (421739 6.96) Third (421877 -1.67) Stop 425305 First (424235 3.37) Second (424292 -2.02) Third (424262 -4.42) Stop 426488 First (425361 8.72) Second (425448 0.89) Third (425568 0.84) Stop 426843 First (426511 8.95) Second (426571 2.13) Third (426619 -0.47) Stop 428718 First (426871 2.81) Second (426904 1.73) Third (426889 -3.28) Stop 429700 First (428729 4.88) Second (428684 2.38) Third (428786 -0.72) Stop 430176 First (429829 5.77) Second (430018 -3.98) Third (430159 -7.97) Stop 432675 First (432226 3.87) Second (432367 1.89) Third (432280 -3.82) Stop 433782 First (432679 6.25) Second (432697 5.97) Third (432850 -4.05) Stop 434341 First (433871 5.14) Second (433820 0.29) Third (433775 -6.07) Stop 434780 First (434361 5.58) Second (434523 -6.24) Third (434556 -6.88) Stop 435835 First (434858 7.72) Second (435092 -4.05) Third (435245 -4.56) Stop 436331 First (435813 5.56) Second (435822 1.89) Third (435861 0.88) Stop 442221 First (440791 -2.67) Second (440824 -3.63) Third (440773 -5.62) Stop 444398 First (443907 4.56) Second (443739 -0.66) Third (443889 -2.51) Stop 454013 First (453699 7.41) Second (453696 7.07) Third (453663 4.47) Stop 455655 First (454357 7.29) Second (454507 -0.16) Third (454567 -0.92) Stop 456524 First (455901 6.29) Second (456057 -2.46) Third (455940 -2.48) Stop 457924 First (456650 5.88) Second (456683 -2.09) Third (456722 -3.4) Stop 460466 First (458112 2.52) Second (458067 -0.44) Third (458241 -1.22) Stop 460947 Two predictions First (460675 4.46) Second (460690 -0.57) Stop 463010 First (461139 2.48) Second (461334 -1.92) Third (461388 -1.92) Stop 463532 First (463161 8.99) Second (463476 -3.44) Third (463215 -3.93) Stop 464024 First (463626 5.23) Second (463728 -2.26) Third (463917 -6.11) Stop 467454 First (466636 7.55) Second (466678 1.8) Third (466660 -0.75) Stop 468065 First (467607 -4.08) Second (467379 -4.63) Third (467505 -8.92) Stop 469867 First (468095 1.12) Second (468266 -1.24) Third (468164 -2.39) Stop 471641 First (469860 5.77) Second (469746 -0.18) Third (469755 -1.96) Stop 472160 First (471822 5.15) Second (471831 -2.07) Third (471684 -2.17) Stop 473476 First (472190 5.35) Second (472250 2.5) Third (472322 -4.91) Stop 475175 First (474603 9.82) Second (474618 0.2) Third (474612 -1.0) Stop 476249 First (475896 7.36) Second (475959 2.35) Third (475980 -1.84) Stop 478819 First (478655 1.95) Second (478712 1.02) Third (478799 -2.36) Stop 485632 First (484985 2.21) Second (485039 -5.53) Third (485156 -6.23) Stop 489122 First (485760 -1.66) Second (485766 -1.83) Third (486063 -2.8) Stop 490483 First (490106 2.16) Second (490166 -1.74) Third (490340 -5.94) Stop 491187 First (490636 1.31) Second (490582 -4.69) Third (490603 -5.94) Stop 493247 First (491316 2.43) Second (491385 -0.63) Third (491703 -10.0) Stop 493629 First (493300 5.06) Second (493330 4.52) Third (493360 3.89) Stop 494234 First (493629 2.02) Second (493659 1.48) Third (493710 -1.41) Stop 496218 First (494344 7.19) Second (494380 -3.34) Third (494401 -3.79) Stop 497043 First (496399 8.13) Second (496459 1.17) Third (496342 1.12) Stop 498241 First (497279 5.82) Second (497507 -3.05) Third (497387 -3.36) Stop 500653 First (499349 2.71) Second (499547 -3.57) Third (499496 -4.44) Stop 505790 First (504138 8.44) Second (504147 -1.11) Third (504471 -6.28) Stop 507783 First (507388 1.83) Second (507442 0.78) Third (507697 -3.16)

Stop 511797 First (510865 10.47) Second (510991 -3.45) Third (511000 -5.97) Stop 513092 First (511803 6.51) Second (511800 5.25) Third (511923 -0.02) Stop 513624 First (513217 3.22) Second (513517 0.51) Third (513292 -1.18) Stop 515820 First (515143 4.74) Second (515161 1.39) Third (515308 -7.73) Stop 516586 First (515807 4.75) Second (515852 -2.07) Third (515780 -3.48) Stop 519643 First (518957 5.3) Second (519080 -3.71) Third (519185 -4.49) Stop 522054 First (519640 7.14) Second (519790 -4.99) Third (519715 -6.33) Stop 526765 First (522485 8.73) Second (522518 6.29) Third (522653 -3.09) Stop 527173 First (526805 10.53) Second (526829 2.01) Third (526901 0.63) Stop 527883 First (527173 2.23) Second (527185 0.7) Third (527542 -7.57) Stop 528124 First (527864 3.8) Second (527894 2.04) Third (528002 -1.38) Stop 528354 First (528181 1.76) Second (528157 -0.67) Third (528163 -1.93) Stop 532157 First (531675 6.68) Second (531795 -1.93) Third (531924 -3.15) Stop 533050 First (532235 6.47) Second (532280 0.08) Third (532550 -4.09) Stop 534921 First (533140 3.54) Second (533050 1.75) Third (533086 0.27) Stop 535710 First (534934 9.38) Second (534961 1.99) Third (535036 -0.19) Stop 536688 First (535810 7.6) Second (535840 3.74) Third (535852 3.66) Stop 536998 First (536720 -1.39) Second (536798 -5.27) Third (536993 -6.88) Stop 538311 First (536857 7.64) Second (536908 -2.32) Third (537043 -4.29) Stop 539732 First (538371 7.18) Second (538500 -1.0) Third (538632 -3.46) Stop 541090 First (539789 5.66) Second (539783 -3.79) Third (539999 -5.2) Stop 542257 First (541112 5.98) Second (541265 -0.39) Third (541106 -1.61) Stop 547571 First (545904 9.38) Second (545955 4.44) Third (546012 -2.26) Stop 547841 First (547581 7.91) Second (547752 0.27) Third (547725 -1.27) Stop 548839 First (547838 2.25) Second (547982 -1.03) Third (548123 -2.23) Stop 549665 First (548850 2.08) Second (548757 -0.52) Third (548946 -1.7) Stop 550555 First (549662 5.02) Second (549677 -2.87) Third (549920 -4.39) Stop 553840 First (553154 0.39) Second (553220 -7.26) Third (553313 -7.62) Stop 555219 First (553834 5.22) Second (553906 3.23) Third (553912 -1.25) Stop 557977 First (557435 6.09) Second (557543 -2.16) Third (557402 -4.29) Stop 558889 First (558200 1.59) Second (558197 1.55) Third (558221 -0.58) Stop 561523 First (558920 3.84) Second (559220 -4.11) Third (559127 -5.91) Stop 562542 First (561412 -1.86) Second (561565 -4.63) Third (561559 -7.43) Stop 563068 First (562553 1.65) Second (562358 1.53) Third (562427 -2.59) Stop 565755 First (565246 1.55) Second (565330 -3.91) Third (565195 -5.48) Stop 565910 First (565761 -2.64) Second (565698 -3.56) Third (565821 -5.28) Stop 566364 First (566065 6.45) Second (566056 -2.3) Third (566260 -3.54) Stop 567227 First (566361 2.38) Second (566412 -3.32) Third (566421 -4.28) Stop 567470 First (567285 3.13) Second (567333 0.49) Third (567420 0.34) Stop 567870 First (567538 1.26) Second (567484 -1.25) Third (567598 -5.69) Stop 569651 First (568125 4.5) Second (568170 2.43) Third (568146 1.28) Stop 570667 First (570116 3.57) Second (570143 -7.7) Third (570404 -12.54) Stop 571474 First (570677 3.88) Second (570761 2.96) Third (570722 1.61) Stop 572144 First (571689 5.97) Second (571788 -1.31) Third (571845 -4.56) Stop 572314 First (572144 7.56) Second (572081 -1.87) Third (572168 -3.48) Stop 572597 First (572307 8.23) Second (572316 0.83) Third (572547 -4.41) Stop 572956 First (572594 7.12) Second (572750 0.28) Third (572780 -0.34) Stop 573562 First (573179 4.78) Second (573194 1.06) Third (573176 -0.87) Stop 576836 First (576621 5.93) Second (576630 3.07) Third (576741 -4.81) Stop 577333 First (576836 6.24) Second (577016 -0.07) Third (576902 -3.19) Stop 577791 First (577330 4.45) Second (577318 -1.15) Third (577495 -3.87) Stop 579309 First (579103 6.08) Second (579181 -0.86) Third (579136 -1.62) Stop 580602 First (580135 1.52) Second (580057 0.63) Third (580171 -4.78)

Stop 581320 First (580577 1.67) Second (580757 0.35) Third (580766 -2.15) Stop 582283 Two predictions First (582098 3.25) Second (582269 -2.67) Stop 583653 First (582904 4.26) Second (582991 -8.52) Third (583096 -8.7) Stop 585109 First (584750 2.9) Second (584762 -1.45) Third (584915 -4.28) Stop 596196 First (594823 -0.3) Second (595057 -2.32) Third (595036 -4.86) Stop 596686 First (596354 9.98) Second (596378 1.69) Third (596564 -0.25) Stop 597925 First (596702 4.83) Second (596891 -0.86) Third (596732 -3.07) Stop 601080 First (597937 9.27) Second (597964 0.1) Third (598069 -1.95) Stop 602558 First (601182 3.09) Second (601146 -0.74) Third (601509 -5.11) Stop 608400 First (607288 0.27) Second (607282 -0.12) Third (607450 -6.94) Stop 613162 First (611960 2.81) Second (612038 -0.76) Third (612125 -3.46) Stop 617261 First (613380 4.66) Second (613242 3.54) Third (613284 0.65) Stop 618610 First (617477 4.04) Second (617606 -0.13) Third (617930 -7.81) Stop 622773 First (621523 5.48) Second (621694 -2.14) Third (621613 -3.15) Stop 625283 First (624108 9.3) Second (624144 3.48) Third (624096 0.97) Stop 626903 First (625293 7.0) Second (625365 -1.95) Third (625437 -5.28) Stop 627774 First (626917 6.88) Second (627028 -2.85) Third (627070 -4.24) Stop 628520 First (627774 7.59) Second (628026 -1.02) Third (627957 -6.11) Stop 628936 First (628523 7.5) Second (628601 1.39) Third (628640 -0.44) Stop 631222 First (629117 5.97) Second (629162 0.43) Third (629231 -3.35) Stop 631602 First (631405 6.82) Second (631459 0.23) Third (631468 -1.27) Stop 633969 First (632809 5.24) Second (632875 -4.22) Third (633223 -5.85) Stop 638731 First (638168 9.65) Second (638174 -0.08) Third (638498 -6.86) Stop 640541 First (638976 5.17) Second (638946 1.54) Third (638949 0.94) Stop 642549 First (641311 6.97) Second (641320 0.28) Third (641497 -2.3) Stop 643091 First (642630 6.64) Second (642708 -1.59) Third (642717 -2.08) Stop 649842 First (648796 -4.18) Second (648991 -6.71) Third (649066 -8.12) Stop 653116 First (651458 3.72) Second (651461 0.59) Third (651398 -2.69) Stop 653765 First (653085 3.32) Second (653217 0.04) Third (653214 -1.41) Stop 656340 First (655780 -1.47) Second (655756 -2.33) Third (655870 -3.57) Stop 656724 First (656515 1.96) Second (656512 -3.46) Third (656485 -4.04) Stop 657481 First (657254 7.76) Second (657248 -1.16) Third (657326 -4.05) Stop 658041 First (657670 2.57) Second (657478 0.0) Third (657481 -0.46) Stop 658373 Two predictions First (658170 4.03) Second (658296 1.58) Stop 674723 First (674241 7.06) Second (674430 -1.21) Third (674328 -4.82) Stop 676641 First (675934 7.81) Second (675940 2.15) Third (675958 0.83) Stop 678065 First (676638 4.76) Second (676950 -8.16) Third (676995 -10.99) Stop 679438 First (678731 7.38) Second (678824 -0.4) Third (678776 -1.96) Stop 680886 First (679435 4.73) Second (679747 -6.95) Third (679519 -7.6) Stop 695499 First (694324 5.25) Second (694318 0.12) Third (694546 -0.62) Stop 695916 First (695650 4.69) Second (695581 4.32) Third (695683 2.44) Stop 696068 First (696009 2.02) Second (695967 -1.61) Third (695934 -1.81) Stop 696184 First (695978 -1.41) Second (696065 -6.42) Third (696137 -10.16) Stop 696337 First (696320 -1.47) Second (696329 -2.02) Third (696185 -3.72) Stop 705113 First (703167 10.54) Second (703410 -4.19) Third (703425 -7.53) Stop 706980 First (705316 5.58) Second (705796 -14.37) Third (705850 -18.15) Stop 708963 First (707557 7.71) Second (707629 3.37) Third (707635 1.97) Stop 709339 First (709013 5.24) Second (709040 -1.16) Third (709169 -7.18) Stop 712755 First (712210 1.68) Second (712075 -0.77) Third (712132 -3.65) Stop 714421 First (712781 5.74) Second (712730 -0.16) Third (712760 -0.35) Stop 715129 First (714635 6.8) Second (714665 1.83) Third (714905 -7.03) Stop 720063 First (719998 -0.66) Second (719806 -0.91) Third (719980 -2.95) Stop 728514 Two predictions First (728254 1.93) Second (728383 1.27)

Stop 728563 First (728357 12.4) Second (728444 -1.31) Third (728525 -5.95) Stop 732999 First (728806 6.0) Second (728839 2.04) Third (729097 -7.0) Stop 733325 First (732999 5.86) Second (733125 0.76) Third (733068 -0.4) Stop 734876 First (733443 0.67) Second (733722 -5.5) Third (733689 -7.63) Stop 735442 First (734873 6.86) Second (734900 -2.15) Third (734885 -2.85) Stop 735922 First (735668 6.21) Second (735686 2.15) Third (735734 -1.85) Stop 737184 First (736141 -0.67) Second (736123 -0.95) Third (736327 -4.11) Stop 738076 First (737315 8.71) Second (737333 1.74) Third (737378 -2.36) Stop 738733 First (738224 5.96) Second (738398 -10.17) Third (738512 -11.56) Stop 740148 First (738730 6.72) Second (738868 0.54) Third (738949 -5.48) Stop 742793 First (742050 3.54) Second (742152 -1.48) Third (742233 -4.19) Stop 743472 First (742816 4.99) Second (742879 -2.4) Third (742942 -2.72) Stop 744398 First (743466 6.9) Second (743502 -1.94) Third (743565 -4.89) Stop 745122 First (744505 -0.91) Second (744388 -0.91) Third (744685 -4.0) Stop 745949 First (745158 6.91) Second (745488 -6.63) Third (745299 -8.02) Stop 754789 First (754400 4.76) Second (754385 4.01) Third (754412 0.25) Stop 755130 First (754783 6.24) Second (754879 -3.6) Third (755008 -4.05) Stop 756896 First (755130 2.41) Second (755118 -1.77) Third (755136 -1.9) Stop 757628 First (756912 7.45) Second (757008 -0.56) Third (756969 -0.81) Stop 757947 First (757687 -1.39) Second (757912 -1.42) Third (757849 -4.64) Stop 760730 First (757929 7.24) Second (757956 -4.31) Third (757944 -7.02) Stop 761962 First (760745 6.9) Second (760877 -4.41) Third (760850 -5.66) Stop 763403 First (762237 5.49) Second (762414 -5.83) Third (762297 -7.78) Stop 764272 First (763403 8.44) Second (763505 -2.58) Third (763757 -7.35) Stop 767183 First (765267 4.36) Second (765207 2.62) Third (765264 -0.3) Stop 769834 First (767201 5.93) Second (767237 -2.4) Third (767300 -2.99) Stop 770086 Two predictions First (769859 2.42) Second (769910 2.39) Stop 772249 First (770681 6.17) Second (770678 1.86) Third (770765 -1.48) Stop 773404 First (772265 7.94) Second (772364 4.41) Third (772409 0.42) Stop 773825 First (773532 2.42) Second (773625 0.2) Third (773601 -0.13) Stop 774379 First (773975 3.14) Second (774125 -1.93) Third (774089 -2.62) Stop 775068 First (774376 4.95) Second (774385 2.11) Third (774436 -0.4) Stop 775500 First (775072 7.97) Second (775168 0.57) Third (775150 -2.89) Stop 776830 First (775565 1.42) Second (775763 -2.18) Third (775622 -4.52) Stop 778255 First (776963 6.68) Second (776960 4.74) Third (777038 -3.11) Stop 778811 First (778290 6.1) Second (778320 2.64) Third (778266 -0.33) Stop 779612 First (778821 3.51) Second (778848 -4.91) Third (779082 -8.02) Stop 782351 First (781308 0.79) Second (781317 0.61) Third (781578 -3.32) Stop 783108 First (782389 8.04) Second (782404 1.67) Third (782488 -6.3) Stop 784574 First (784167 0.85) Second (784203 -4.19) Third (784254 -4.58) Stop 785908 First (784856 4.21) Second (785126 -2.3) Third (785018 -7.76) Stop 794145 First (793996 5.05) Second (794035 -1.01) Third (793990 -2.41) Stop 795085 First (794312 9.12) Second (794402 1.21) Third (794432 -1.25) Stop 795774 First (795085 4.64) Second (795292 -3.88) Third (795148 -5.33) Stop 796835 First (795777 4.14) Second (795804 -3.81) Third (796089 -8.73) Stop 798804 First (797809 7.69) Second (797929 -2.44) Third (797908 -2.63) Stop 801034 First (799982 8.21) Second (800096 -0.6) Third (800087 -1.22) Stop 802543 First (801110 7.34) Second (801173 -1.06) Third (801209 -4.18) Stop 804987 First (802726 4.26) Second (802750 -2.94) Third (802723 -3.29) Stop 809607 First (808567 3.95) Second (808933 -0.97) Third (808951 -5.25) Stop 810758 First (809604 -0.44) Second (809706 -3.89) Third (809679 -8.68) Stop 811500 First (810745 6.75) Second (810706 -0.25) Third (810910 -2.4) Stop 812170 First (811493 4.26) Second (811532 1.13) Third (811487 0.56)

Stop 814770 First (812749 4.53) Second (813004 -5.63) Third (812929 -5.64) Stop 817256 First (816234 5.75) Second (816267 3.12) Third (816198 -1.08) Stop 817790 First (817278 8.5) Second (817425 -4.63) Third (817590 -7.48) Stop 818278 First (817793 4.04) Second (817919 -0.5) Third (817898 -0.65) Stop 818516 First (818271 4.33) Second (818208 -1.61) Third (818250 -1.73) Stop 818970 First (818518 9.62) Second (818860 -3.41) Third (818758 -4.32) Stop 819811 First (819107 4.72) Second (819167 -3.53) Third (819188 -3.97) Stop 820729 First (820016 7.98) Second (820109 -2.54) Third (820181 -3.21) Stop 824263 First (823853 6.9) Second (823949 -0.19) Third (823907 -1.99) Stop 831459 First (830095 7.86) Second (830218 -0.55) Third (830110 -4.2) Stop 834443 First (832158 2.35) Second (832293 2.13) Third (832185 2.02) Stop 835433 First (834471 10.44) Second (834645 3.66) Third (834564 -1.77) Stop 836659 First (835574 8.31) Second (835640 2.0) Third (835727 -6.5) Stop 842481 First (841555 5.12) Second (841474 -4.11) Third (841729 -10.52) Stop 850188 First (849673 6.26) Second (849793 1.63) Third (849802 0.34) Stop 852163 First (851894 -0.07) Second (852068 -5.49) Third (852056 -5.72) Stop 852873 First (852406 7.51) Second (852577 0.05) Third (852583 -0.9) Stop 853988 First (852954 -1.56) Second (852870 -1.83) Third (853116 -2.67) Stop 856778 First (855186 1.86) Second (855210 -0.04) Third (855315 -1.94) Stop 863527 First (862865 6.02) Second (862859 0.5) Third (862793 0.32) Stop 866756 First (865791 5.79) Second (865914 0.4) Third (865848 -2.02) Stop 868614 First (866635 1.0) Second (866644 0.83) Third (866743 -0.57) Stop 870172 First (868634 1.43) Second (868370 0.52) Third (868376 -0.16) Stop 871110 First (870190 6.95) Second (870340 -3.16) Third (870430 -5.06) Stop 872024 First (871113 4.16) Second (871155 0.77) Third (871227 -4.31) Stop 874550 First (872124 -0.05) Second (872202 -3.72) Third (872454 -5.65) Stop 875886 First (874558 4.07) Second (874645 3.49) Third (874609 0.87) Stop 877854 First (877471 11.25) Second (877570 1.79) Third (877438 -2.15) Stop 879080 First (877965 5.39) Second (878109 -5.01) Third (877989 -7.69) Stop 881152 First (879950 5.37) Second (880082 2.17) Third (879941 1.38) Stop 884128 First (882896 1.87) Second (883067 -0.56) Third (883091 -3.27) Stop 887182 First (886646 5.34) Second (886616 0.09) Third (886778 -0.2) Stop 889689 First (889312 6.6) Second (889393 -4.08) Third (889435 -6.02) Stop 890423 First (890136 6.27) Second (890193 1.23) Third (890190 1.2) Stop 891129 First (890407 4.6) Second (890638 -3.97) Third (890587 -6.17) Stop 892092 First (891190 2.34) Second (891205 -1.55) Third (891304 -4.31) Stop 892656 First (892180 4.32) Second (892240 -2.3) Third (892132 -4.53) Stop 894119 First (893007 2.27) Second (892932 0.34) Third (892857 -1.39) Stop 895347 First (894133 1.09) Second (894214 0.53) Third (894442 -2.78) Stop 896310 First (895357 9.59) Second (895531 -2.31) Third (895414 -2.36) Stop 897152 First (896307 5.25) Second (896265 -4.2) Third (896352 -5.37) Stop 897700 First (897212 -0.08) Second (897227 -0.44) Third (897311 -1.63) Stop 898868 First (897741 5.02) Second (897792 -1.1) Third (897921 -4.02) Stop 904139 First (903816 8.72) Second (903876 -4.75) Third (904092 -5.39) Stop 904966 First (904136 0.87) Second (904175 -5.27) Third (904277 -5.61) Stop 917354 First (915696 7.05) Second (915720 -2.43) Third (915807 -4.38) Stop 919573 First (918458 3.96) Second (918476 0.48) Third (918431 -3.04) Stop 921516 First (919570 7.28) Second (919675 1.21) Third (919720 -2.89) Stop 922456 First (922136 1.72) Second (922214 -0.44) Third (922271 -1.1) Stop 924763 First (922487 9.56) Second (922520 3.94) Third (922472 2.24) Stop 932312 First (931818 4.99) Second (931767 0.83) Third (931929 -3.0) Stop 936436 First (932447 2.52) Second (932483 -2.32) Third (932642 -2.61) Stop 937206 First (936595 7.97) Second (936592 6.72) Third (936778 -4.37)

Stop 938560 First (937217 3.4) Second (937373 1.72) Third (937337 -2.89) Stop 939943 First (938651 5.8) Second (938768 -3.66) Third (939083 -6.75) Stop 942626 First (940182 4.52) Second (940209 -3.07) Third (940236 -3.85) Stop 943254 First (942637 9.49) Second (942724 -3.1) Third (942886 -4.72) Stop 944119 First (943256 7.75) Second (943193 2.39) Third (943418 -1.87) Stop 946242 First (945205 2.56) Second (945094 -0.06) Third (945118 -1.25) Stop 947882 First (946452 -2.36) Second (946260 -3.28) Third (946479 -6.81) Stop 949481 First (948891 9.72) Second (948999 -0.09) Third (949074 -0.27) Stop 956677 First (955985 4.41) Second (956009 -2.27) Third (956024 -2.49) Stop 957964 First (956876 6.19) Second (956912 0.31) Third (956990 -4.33) Stop 959318 First (958035 3.63) Second (958182 -3.85) Third (958329 -3.94) Stop 960251 First (959487 4.77) Second (959463 3.46) Third (959478 1.72) Stop 961107 First (960424 9.67) Second (960484 -0.01) Third (960496 -1.57) Stop 962891 First (961218 4.03) Second (961794 -11.11) Third (961638 -13.35) Stop 963335 First (963051 8.93) Second (963147 1.47) Third (963066 -1.58) Stop 965807 First (963543 5.88) Second (963465 2.23) Third (963591 -4.36) Stop 967592 First (965928 0.03) Second (965844 -0.86) Third (966135 -2.71) Stop 968575 First (967589 -2.69) Second (967622 -4.25) Third (967802 -6.85) Stop 969844 First (968612 6.23) Second (968702 -3.75) Third (968885 -4.04) Stop 970078 First (969896 9.19) Second (970049 -6.39) Third (970025 -7.09) Stop 970821 First (970075 5.8) Second (970084 2.67) Third (970159 -1.03) Stop 971868 First (970975 9.04) Second (971095 3.23) Third (971188 0.45) Stop 973545 First (972760 6.16) Second (972748 -2.84) Third (972868 -3.92) Stop 974864 First (973542 8.45) Second (973680 -0.34) Third (973698 -3.1) Stop 975549 First (974845 2.69) Second (974818 1.19) Third (974872 -1.1) Stop 980009 First (975549 8.98) Second (975678 0.76) Third (975813 -2.49) Stop 982117 First (980270 5.68) Second (980273 2.93) Third (980282 2.88) Stop 982846 First (982298 1.24) Second (982289 -2.26) Third (982493 -3.58) Stop 983520 First (982873 6.55) Second (983020 -2.69) Third (983158 -5.62) Stop 992457 First (989845 6.87) Second (989917 -4.55) Third (990100 -10.15) Stop 997630 First (997091 5.75) Second (997082 3.6) Third (997106 -2.52) Stop 998414 First (997713 5.01) Second (997740 2.92) Third (998022 -7.18) Stop 1001039 First (998439 3.51) Second (998511 -1.73) Third (998484 -1.96) Stop 1002100 First (1001030 4.21) Second (1001057 1.46) Third (1001093 -2.79) Stop 1002654 First (1002112 1.39) Second (1002202 0.36) Third (1002178 -2.0) Stop 1003177 First (1002614 5.75) Second (1002665 -0.24) Third (1002662 -1.44) Stop 1003880 First (1003143 4.69) Second (1003395 -0.36) Third (1003191 -0.69) Stop 1005001 First (1003991 6.89) Second (1003964 -3.32) Third (1004138 -3.97) Stop 1005717 First (1005175 6.3) Second (1005235 -0.34) Third (1005232 -0.55) Stop 1009175 First (1007067 2.9) Second (1007211 -1.32) Third (1007316 -2.9) Stop 1011094 First (1009187 6.87) Second (1009202 0.63) Third (1009322 -0.46) Stop 1012477 First (1011224 9.54) Second (1011281 -4.13) Third (1011275 -4.15) Stop 1014122 First (1012482 7.87) Second (1012464 1.4) Third (1012614 -2.67) Stop 1014682 First (1014119 6.39) Second (1014134 -1.7) Third (1014302 -4.07) Stop 1015105 First (1014938 7.22) Second (1015019 2.28) Third (1015097 1.98) Stop 1018160 First (1017708 2.11) Second (1017891 -3.49) Third (1017915 -3.78) Stop 1020990 First (1020361 7.01) Second (1020415 -4.47) Third (1020439 -4.86) Stop 1025748 First (1023694 1.61) Second (1023601 -0.43) Third (1023676 -0.6) Stop 1027582 First (1027169 7.96) Second (1027115 -0.16) Third (1027124 -1.37) Stop 1029565 First (1029287 3.29) Second (1029074 2.16) Third (1029104 -1.66) Stop 1032480 First (1031362 6.3) Second (1031473 0.91) Third (1031392 -5.17) Stop 1034270 First (1032477 8.15) Second (1032567 0.91) Third (1032534 -2.03) Stop 1034996 First (1034289 9.68) Second (1034373 -2.29) Third (1034502 -2.43)

Stop 1035580 First (1034993 7.38) Second (1035059 -1.24) Third (1035011 -1.75) Stop 1035975 First (1035577 7.09) Second (1035745 -4.61) Third (1035616 -5.47) Stop 1036829 First (1035972 1.01) Second (1036035 -3.96) Third (1035912 -5.37) Stop 1038507 First (1036963 3.89) Second (1037068 -2.02) Third (1037083 -2.14) Stop 1039655 First (1038519 9.53) Second (1038606 1.27) Third (1038537 -2.53) Stop 1039760 First (1039668 10.28) Second (1039704 -3.06) Third (1039698 -6.69) Stop 1041138 First (1039810 5.76) Second (1039840 4.59) Third (1039819 2.41) Stop 1049027 First (1048695 6.58) Second (1048959 -6.17) Third (1048989 -9.23) Stop 1049331 First (1049056 3.65) Second (1049272 -2.04) Third (1049236 -4.14) Stop 1049753 First (1049250 0.27) Second (1049508 -1.5) Third (1049376 -4.56) Stop 1050896 Two predictions First (1050684 7.93) Second (1050696 2.44) Stop 1051300 First (1051070 -2.12) Second (1051037 -2.2) Third (1051199 -3.1) Stop 1056512 First (1055484 6.38) Second (1055520 -2.94) Third (1055550 -3.97) Stop 1058479 First (1057307 7.88) Second (1057259 -2.73) Third (1057571 -6.53) Stop 1061025 First (1058479 8.8) Second (1058569 -1.9) Third (1058692 -2.68) Stop 1061621 First (1061022 3.88) Second (1060989 1.19) Third (1061358 -5.05) Stop 1064515 First (1063259 2.54) Second (1063304 -3.11) Third (1063394 -3.64) Stop 1066049 First (1064808 6.38) Second (1064799 -1.29) Third (1064916 -1.37) Stop 1067371 First (1067141 3.75) Second (1067135 1.94) Third (1067237 0.2) Stop 1074103 First (1073465 5.31) Second (1073438 -0.18) Third (1073480 -2.4) Stop 1080036 First (1078528 8.23) Second (1078693 0.01) Third (1078546 -1.25) Stop 1081408 First (1080689 3.42) Second (1080677 1.33) Third (1080845 -0.16) Stop 1082593 First (1081466 6.16) Second (1081565 -0.57) Third (1081532 -0.66) Stop 1083870 First (1082599 2.77) Second (1082623 -5.09) Third (1082656 -7.39) Stop 1085279 First (1084215 5.12) Second (1084491 -3.45) Third (1084509 -6.3) Stop 1093457 First (1092027 -1.19) Second (1092099 -1.91) Third (1092114 -3.53) Stop 1095069 First (1094821 0.6) Second (1094767 -0.05) Third (1094746 -3.7) Stop 1096052 First (1095066 5.03) Second (1095225 -3.69) Third (1095390 -5.35) Stop 1096422 First (1096192 2.48) Second (1096171 -2.16) Third (1096369 -10.77) Stop 1096603 First (1096190 4.78) Second (1096244 2.03) Third (1096262 1.34) Stop 1098047 First (1097109 7.24) Second (1097070 -0.92) Third (1097391 -3.88) Stop 1098839 First (1098102 7.77) Second (1098123 -1.15) Third (1098231 -4.48) Stop 1099417 First (1098863 3.51) Second (1098935 -4.08) Third (1099031 -4.37) Stop 1100010 First (1099489 -1.02) Second (1099510 -1.6) Third (1099579 -1.72) Stop 1103629 First (1103174 5.29) Second (1103147 1.44) Third (1103375 0.08) Stop 1104125 First (1103670 6.9) Second (1103871 -8.71) Third (1104006 -11.48) Stop 1104516 First (1104184 5.05) Second (1104094 -1.06) Third (1104088 -1.99) Stop 1104948 First (1104637 7.18) Second (1104664 1.7) Third (1104724 0.22) Stop 1105576 First (1105043 11.25) Second (1105127 -0.48) Third (1105103 -4.26) Stop 1106999 First (1105578 -0.25) Second (1105509 -1.29) Third (1105743 -2.16) Stop 1110093 First (1108540 0.99) Second (1108591 0.48) Third (1108567 -0.38) Stop 1112629 First (1110116 1.4) Second (1110086 -2.09) Third (1110146 -2.25) Stop 1113029 First (1112802 7.06) Second (1112826 0.11) Third (1112829 -1.46) Stop 1117082 First (1116030 4.39) Second (1115976 -1.18) Third (1116078 -1.66) Stop 1125369 First (1124785 8.32) Second (1124977 -3.26) Third (1124926 -3.42) Stop 1126027 First (1125380 9.23) Second (1125440 -0.46) Third (1125521 -3.47) Stop 1126952 First (1126029 6.16) Second (1125996 -2.29) Third (1126053 -5.53) Stop 1128597 First (1127062 2.59) Second (1127098 -5.1) Third (1127104 -5.28) Stop 1130657 First (1130241 9.22) Second (1130397 -2.04) Third (1130424 -2.59) Stop 1131065 First (1130661 6.01) Second (1130937 -0.09) Third (1130799 -0.91) Stop 1131772 First (1131077 7.7) Second (1131230 -1.15) Third (1131194 -6.85) Stop 1133005 First (1131797 7.29) Second (1131920 -4.56) Third (1131938 -6.97) Stop 1133780 First (1133025 6.76) Second (1133220 -0.81) Third (1133049 -4.35)

Stop 1134734 First (1133952 7.57) Second (1134006 -1.03) Third (1134069 -5.25) Stop 1135485 First (1134778 2.6) Second (1134787 1.92) Third (1134772 -1.95) Stop 1136594 First (1135497 0.82) Second (1135731 -1.49) Third (1135494 -2.01) Stop 1137535 First (1136594 3.1) Second (1136564 -0.85) Third (1136726 -2.96) Stop 1139244 First (1137601 6.64) Second (1137625 1.84) Third (1137721 -1.39) Stop 1140209 First (1139256 9.89) Second (1139325 1.46) Third (1139292 0.26) Stop 1144045 First (1143725 1.01) Second (1143902 -0.94) Third (1143671 -3.67) Stop 1145122 First (1144271 1.98) Second (1144163 1.47) Third (1144301 -2.43) Stop 1146538 First (1146017 -0.44) Second (1146161 -0.68) Third (1146149 -2.95) Stop 1146763 Two predictions First (1146590 9.67) Second (1146632 -2.99) Stop 1147914 First (1147102 0.22) Second (1146874 -1.02) Third (1146898 -1.61) Stop 1148935 First (1147982 3.64) Second (1148054 2.49) Third (1148057 -0.01) Stop 1149880 First (1148951 9.37) Second (1149014 1.51) Third (1148969 -3.01) Stop 1150627 First (1149893 8.14) Second (1150061 -1.95) Third (1150070 -3.98) Stop 1151074 Two predictions First (1150838 4.87) Second (1150970 -1.7) Stop 1152403 First (1151162 5.81) Second (1151198 -0.32) Third (1151183 -2.2) Stop 1153332 First (1152523 7.76) Second (1152721 -2.96) Third (1152634 -4.26) Stop 1154357 First (1153335 2.93) Second (1153350 -1.06) Third (1153395 -1.22) Stop 1154988 First (1154347 9.08) Second (1154449 1.43) Third (1154563 -3.19) Stop 1155989 First (1154985 5.2) Second (1155087 -1.28) Third (1155186 -3.42) Stop 1156797 First (1156000 1.45) Second (1156147 -0.56) Third (1156051 -3.91) Stop 1158525 First (1157092 7.33) Second (1157140 -0.28) Third (1157233 -4.43) Stop 1161467 First (1161108 2.31) Second (1161300 -2.59) Third (1161090 -4.38) Stop 1161847 First (1161470 5.52) Second (1161494 0.69) Third (1161587 0.13) Stop 1162502 First (1161861 8.4) Second (1161858 3.22) Third (1161870 2.59) Stop 1163307 First (1162483 1.33) Second (1162624 -4.01) Third (1162741 -7.24) Stop 1164343 First (1163318 5.87) Second (1163330 2.75) Third (1163627 -0.31) Stop 1164908 First (1164366 4.69) Second (1164309 2.79) Third (1164522 -2.77) Stop 1166612 First (1165308 5.68) Second (1165365 2.7) Third (1165281 -0.58) Stop 1167361 First (1166822 4.97) Second (1166834 -1.07) Third (1166885 -3.25) Stop 1168553 First (1168296 6.14) Second (1168341 0.2) Third (1168476 -1.6) Stop 1175849 First (1174650 2.77) Second (1174689 -3.35) Third (1174599 -6.42) Stop 1176543 First (1175842 3.58) Second (1175752 -0.91) Third (1175953 -1.9) Stop 1177787 First (1176543 7.32) Second (1176549 4.64) Third (1176684 -3.25) Stop 1178727 First (1177816 4.57) Second (1177900 -1.9) Third (1177756 -4.24) Stop 1179582 First (1178743 3.29) Second (1178854 1.05) Third (1178842 -1.85) Stop 1186293 First (1185067 6.3) Second (1185241 -0.7) Third (1185214 -1.5) Stop 1195596 First (1194346 7.39) Second (1194541 -3.14) Third (1194478 -5.37) Stop 1198811 First (1197918 5.5) Second (1198038 -5.02) Third (1198269 -8.66) Stop 1201061 First (1200720 3.92) Second (1200675 0.64) Third (1200792 -2.23) Stop 1202447 First (1202247 -0.81) Second (1202142 -1.84) Third (1201944 -3.68) Stop 1203048 First (1202491 2.06) Second (1202479 0.44) Third (1202674 -0.95) Stop 1203383 First (1203045 7.05) Second (1203117 -0.65) Third (1203135 -2.01) Stop 1204760 First (1203393 5.95) Second (1203468 -1.15) Third (1203459 -1.77) Stop 1204954 First (1204772 7.16) Second (1204778 3.23) Third (1204820 -3.48) Stop 1205427 First (1204954 7.53) Second (1204996 -2.01) Third (1205134 -3.27) Stop 1206145 First (1205315 -0.55) Second (1205363 -1.15) Third (1205432 -5.68) Stop 1206720 First (1206136 4.09) Second (1206142 -1.43) Third (1206274 -2.12) Stop 1207353 First (1206724 7.07) Second (1206871 -0.35) Third (1206874 -3.23) Stop 1207768 First (1207136 7.64) Second (1207166 2.49) Third (1207178 1.3) Stop 1209462 First (1208908 7.95) Second (1208872 1.65) Third (1209115 -0.92) Stop 1210402 First (1209569 1.59) Second (1209719 -6.3) Third (1209782 -7.54) Stop 1215248 First (1215012 7.38) Second (1215111 -3.04) Third (1215078 -4.11)

Stop 1215563 First (1215291 1.75) Second (1215360 -0.34) Third (1215408 -1.03) Stop 1215858 First (1215592 5.81) Second (1215715 -0.41) Third (1215688 -3.23) Stop 1216219 First (1216043 7.51) Second (1215971 6.57) Third (1216037 -0.26) Stop 1218074 First (1216551 5.16) Second (1216509 3.05) Third (1216872 -7.32) Stop 1218424 First (1218206 1.62) Second (1218329 -0.62) Third (1218323 -3.76) Stop 1220344 First (1218824 4.06) Second (1218854 -1.43) Third (1218929 -2.7) Stop 1221445 First (1220411 -1.69) Second (1220429 -2.87) Third (1220552 -5.78) Stop 1223130 First (1222918 0.41) Second (1222954 -1.42) Third (1222948 -3.5) Stop 1225670 First (1225443 -0.85) Second (1225590 -3.26) Third (1225581 -5.97) Stop 1226191 First (1225823 3.74) Second (1225829 1.02) Third (1225871 0.97) Stop 1227230 First (1227030 3.78) Second (1226937 3.39) Third (1226904 2.25) Stop 1227961 First (1227302 8.5) Second (1227347 0.26) Third (1227410 -1.18) Stop 1228499 First (1228053 2.2) Second (1228038 1.34) Third (1228095 0.39) Stop 1230409 First (1229990 2.5) Second (1230026 -0.56) Third (1229993 -1.73) Stop 1231677 First (1230409 4.64) Second (1230487 0.8) Third (1230493 -1.44) Stop 1234880 First (1234161 4.27) Second (1234251 -0.85) Third (1234137 -3.7) Stop 1238092 First (1236794 4.85) Second (1236821 0.04) Third (1236995 -4.5) Stop 1239172 First (1238102 7.51) Second (1238333 -2.38) Third (1238471 -7.26) Stop 1243014 First (1242289 4.59) Second (1242403 2.78) Third (1242361 -3.34) Stop 1244205 First (1243951 5.87) Second (1244011 0.64) Third (1243918 -0.1) Stop 1244823 First (1244455 -1.6) Second (1244602 -4.09) Third (1244383 -5.37) Stop 1252208 First (1250289 5.98) Second (1250490 1.88) Third (1250280 -1.4) Stop 1258292 First (1258014 9.45) Second (1258068 0.3) Third (1258074 0.17) Stop 1264193 First (1262868 -0.57) Second (1262739 -4.95) Third (1262937 -7.29) Stop 1265317 First (1264235 3.11) Second (1264454 -5.62) Third (1264298 -7.36) Stop 1266150 First (1265317 4.83) Second (1265611 -6.13) Third (1265554 -7.94) Stop 1266539 First (1266147 -0.34) Second (1266276 -2.71) Third (1266324 -3.96) Stop 1267352 First (1266543 6.76) Second (1266594 -2.93) Third (1266582 -3.69) Stop 1268242 First (1267388 6.12) Second (1267400 0.02) Third (1267544 -2.34) Stop 1269051 First (1268812 0.96) Second (1268998 -9.95) Third (1269046 -10.33) Stop 1269586 First (1269347 -6.31) Second (1269533 -9.8) Third (1269581 -10.21) Stop 1271572 First (1271342 8.29) Second (1271519 -3.81) Third (1271504 -5.55) Stop 1272425 First (1271709 5.08) Second (1271694 -0.24) Third (1271730 -0.37) Stop 1274401 First (1273148 0.4) Second (1273007 -0.87) Third (1273193 -6.22) Stop 1278571 First (1277180 5.69) Second (1277174 1.04) Third (1277405 -7.77) Stop 1282830 First (1279087 7.19) Second (1279447 -7.76) Third (1279426 -9.65) Stop 1284365 First (1282827 8.63) Second (1282851 -2.38) Third (1282854 -5.1) Stop 1285072 First (1284362 3.32) Second (1284374 -3.38) Third (1284434 -4.97) Stop 1285749 First (1285072 7.32) Second (1285087 -0.61) Third (1285213 -1.73) Stop 1286207 First (1285932 3.79) Second (1285938 2.31) Third (1285935 0.71) Stop 1289373 First (1288468 4.39) Second (1288429 0.83) Third (1288687 -1.59) Stop 1290478 First (1289465 7.5) Second (1289477 -2.81) Third (1289645 -3.24) Stop 1291588 First (1290680 8.45) Second (1290743 2.35) Third (1290746 -0.97) Stop 1293367 First (1292750 4.12) Second (1292840 1.48) Third (1292780 -3.56) Stop 1298468 First (1297821 2.74) Second (1298082 -3.89) Third (1297920 -4.27) Stop 1300837 First (1299206 5.74) Second (1299161 3.25) Third (1299134 -0.97) Stop 1301843 First (1300923 4.43) Second (1301100 -3.66) Third (1301001 -4.86) Stop 1302766 First (1301861 3.63) Second (1301858 2.47) Third (1301930 -2.04) Stop 1303791 First (1302778 8.26) Second (1302802 -2.37) Third (1302850 -4.51) Stop 1304792 First (1303788 9.32) Second (1303950 0.19) Third (1303842 -4.59) Stop 1309832 First (1309113 -0.17) Second (1309104 -0.61) Third (1309098 -2.2) Stop 1312682 First (1312044 5.35) Second (1312128 1.51) Third (1312059 -1.52) Stop 1322125 First (1321244 1.66) Second (1321328 -4.57) Third (1321265 -5.37)

Stop 1322742 First (1322122 7.18) Second (1322086 3.98) Third (1322191 -1.99) Stop 1324665 First (1322770 4.36) Second (1322794 -3.26) Third (1322800 -7.24) Stop 1325751 First (1324876 4.97) Second (1324897 -3.85) Third (1324960 -4.49) Stop 1328405 First (1327356 2.16) Second (1327365 -0.07) Third (1327362 -1.52) Stop 1331669 First (1329072 5.13) Second (1329030 2.55) Third (1329066 0.12) Stop 1332853 First (1331879 4.9) Second (1331993 -2.71) Third (1331912 -5.28) Stop 1336530 First (1333855 11.25) Second (1333891 1.32) Third (1334116 -1.36) Stop 1338118 First (1337354 4.61) Second (1337396 0.48) Third (1337405 -4.72) Stop 1338575 First (1338267 3.34) Second (1338309 -2.59) Third (1338324 -4.83) Stop 1339751 First (1338582 5.47) Second (1338594 -1.45) Third (1338636 -1.48) Stop 1340682 First (1339885 4.58) Second (1339945 3.26) Third (1340089 -1.04) Stop 1341008 First (1340682 3.06) Second (1340679 -1.54) Third (1340778 -4.48) Stop 1359908 First (1359156 5.62) Second (1359144 1.81) Third (1359132 -1.49) Stop 1360492 First (1359935 8.15) Second (1359968 0.62) Third (1360196 -2.51) Stop 1362254 First (1360767 6.97) Second (1360671 4.8) Third (1361046 -8.57) Stop 1363536 First (1362256 8.71) Second (1362415 -3.53) Third (1362475 -4.72) Stop 1364839 First (1363574 5.29) Second (1363634 2.9) Third (1363631 -2.7) Stop 1366771 First (1366103 6.34) Second (1366208 -2.67) Third (1366196 -5.06) Stop 1367049 First (1366825 10.02) Second (1366981 -1.05) Third (1366864 -3.15) Stop 1367408 First (1367049 8.71) Second (1367259 -2.09) Third (1367100 -4.16) Stop 1367638 First (1367417 7.56) Second (1367405 -3.5) Third (1367564 -6.66) Stop 1368027 First (1367713 6.49) Second (1367959 -3.09) Third (1367899 -4.04) Stop 1369919 First (1368240 3.35) Second (1368213 2.87) Third (1368387 -4.04) Stop 1371225 First (1369933 5.88) Second (1370032 -3.12) Third (1369951 -4.61) Stop 1372127 First (1371246 5.03) Second (1371276 2.88) Third (1371330 -2.02) Stop 1372956 First (1372114 5.39) Second (1372210 -1.2) Third (1372435 -5.1) Stop 1374039 First (1372987 11.07) Second (1373110 -1.65) Third (1373065 -2.7) Stop 1374846 First (1374058 7.63) Second (1374049 3.2) Third (1374130 -2.98) Stop 1375911 First (1374856 4.95) Second (1374868 2.08) Third (1374967 -1.99) Stop 1378175 First (1375908 -0.63) Second (1375977 -5.5) Third (1376049 -10.88) Stop 1378831 First (1378172 9.76) Second (1378655 -12.12) Third (1378436 -13.11) Stop 1379813 First (1378845 5.05) Second (1378944 -3.27) Third (1378902 -3.32) Stop 1380876 First (1379971 6.24) Second (1380109 -1.26) Third (1380016 -3.01) Stop 1383538 First (1382141 4.5) Second (1382294 -3.33) Third (1382174 -4.88) Stop 1384596 First (1383535 7.34) Second (1383700 -2.25) Third (1383805 -3.44) Stop 1386285 First (1384744 4.0) Second (1384906 -1.22) Third (1384717 -2.45) Stop 1387919 First (1386954 7.89) Second (1386912 -4.28) Third (1387140 -4.52) Stop 1390914 First (1390015 7.17) Second (1390042 1.58) Third (1390129 -2.05) Stop 1392864 First (1391251 6.06) Second (1391230 -0.77) Third (1391362 -2.22) Stop 1395116 First (1394136 4.71) Second (1394100 1.56) Third (1394313 -1.6) Stop 1395646 First (1395389 6.45) Second (1395395 3.65) Third (1395542 0.32) Stop 1403673 First (1402846 1.6) Second (1402855 -0.1) Third (1402810 -0.62) Stop 1404566 First (1404003 8.56) Second (1404039 -2.52) Third (1404207 -6.38) Stop 1407057 First (1406074 4.91) Second (1406173 -0.92) Third (1406128 -5.09) Stop 1408908 First (1407610 3.38) Second (1407535 2.04) Third (1407667 -3.51) Stop 1417183 First (1416572 2.54) Second (1416695 -4.6) Third (1416755 -5.2) Stop 1417368 Two predictions First (1417192 -0.92) Second (1417330 -1.25) Stop 1418685 First (1418389 5.27) Second (1418449 1.82) Third (1418512 -1.12) Stop 1419130 First (1418708 5.26) Second (1418825 3.07) Third (1418738 -2.17) Stop 1420000 First (1419194 3.73) Second (1419143 1.3) Third (1419248 -0.96) Stop 1420753 First (1420007 9.72) Second (1420265 -5.22) Third (1420298 -6.4) Stop 1421336 First (1420776 5.82) Second (1420725 5.65) Third (1420806 -1.08) Stop 1421668 First (1421369 -1.61) Second (1421363 -5.14) Third (1421612 -6.91)

Stop 1423263 First (1421806 2.1) Second (1421839 1.44) Third (1421788 1.19) Stop 1423483 First (1423298 0.27) Second (1423202 -2.97) Third (1423301 -3.99) Stop 1423664 First (1423401 3.85) Second (1423584 -2.98) Third (1423536 -4.71) Stop 1424004 First (1423714 0.14) Second (1423645 -0.89) Third (1423771 -0.92) Stop 1424312 First (1424127 -2.55) Second (1424079 -2.87) Third (1424187 -4.48) Stop 1425506 First (1424478 9.15) Second (1424568 0.17) Third (1424610 -2.02) Stop 1425637 First (1425521 -4.39) Second (1425482 -6.23) Third (1425527 -6.3) Stop 1427008 First (1426547 0.37) Second (1426742 -2.73) Third (1426559 -6.03) Stop 1430435 First (1427073 6.02) Second (1427223 -0.08) Third (1427067 -0.33) Stop 1431010 First (1430435 5.53) Second (1430447 1.18) Third (1430597 -8.76) Stop 1439348 First (1439082 7.96) Second (1439193 1.09) Third (1439223 -1.39) Stop 1443714 First (1441075 4.02) Second (1441144 -0.1) Third (1441126 -1.13) Stop 1443896 First (1443711 8.42) Second (1443747 -0.81) Third (1443810 -2.79) Stop 1444230 First (1443856 4.66) Second (1443904 3.12) Third (1443829 1.34) Stop 1447042 First (1445543 6.79) Second (1445540 2.14) Third (1445732 -3.25) Stop 1452880 First (1452017 1.82) Second (1451951 0.51) Third (1452086 -2.55) Stop 1453179 First (1452892 10.95) Second (1452928 -0.44) Third (1452991 -4.01) Stop 1453934 First (1453188 6.28) Second (1453176 1.34) Third (1453236 -0.72) Stop 1454446 First (1453949 5.22) Second (1453943 -0.59) Third (1454093 -2.44) Stop 1455524 First (1454244 3.57) Second (1454268 2.39) Third (1454301 1.49) Stop 1456288 First (1455521 5.69) Second (1455722 -1.67) Third (1455614 -1.76) Stop 1457076 First (1456291 5.65) Second (1456288 3.76) Third (1456327 2.08) Stop 1458505 First (1457081 2.51) Second (1457078 1.59) Third (1457021 1.34) Stop 1458917 First (1458495 4.1) Second (1458411 0.15) Third (1458432 -1.25) Stop 1460122 First (1458917 6.7) Second (1459031 -1.14) Third (1459070 -2.44) Stop 1461462 First (1460149 2.15) Second (1460119 -1.21) Third (1460065 -3.15) Stop 1462513 First (1461563 0.65) Second (1461731 -4.41) Third (1461680 -5.79) Stop 1463085 First (1462495 9.54) Second (1462684 0.07) Third (1462531 -2.33) Stop 1465974 First (1463416 7.35) Second (1463434 2.19) Third (1463530 -3.69) Stop 1468533 First (1467382 9.1) Second (1467499 1.51) Third (1467592 -2.5) Stop 1472037 First (1468714 -2.82) Second (1468939 -6.14) Third (1468882 -7.57) Stop 1473105 First (1472245 4.36) Second (1472386 -2.04) Third (1472305 -3.32) Stop 1475474 First (1473168 4.21) Second (1473171 1.27) Third (1473162 -2.26) Stop 1476250 First (1475645 4.94) Second (1475696 4.13) Third (1475783 -2.58) Stop 1477146 First (1476250 1.97) Second (1476424 -0.28) Third (1476430 -4.7) Stop 1478919 First (1477162 6.31) Second (1477333 -2.81) Third (1477219 -3.96) Stop 1480225 First (1478837 1.57) Second (1478834 -2.85) Third (1478933 -3.06) Stop 1484987 First (1481085 1.05) Second (1481142 0.54) Third (1481232 -0.86) Stop 1486059 First (1485259 11.25) Second (1485400 -0.58) Third (1485376 -3.16) Stop 1487695 First (1486256 5.84) Second (1486331 -2.26) Third (1486280 -2.4) Stop 1489456 First (1488926 4.12) Second (1488890 3.99) Third (1489004 -4.43) Stop 1489874 First (1489701 8.83) Second (1489728 -1.5) Third (1489722 -5.2) Stop 1492134 First (1490494 3.7) Second (1490527 -0.91) Third (1490722 -1.99) Stop 1494655 First (1493312 9.04) Second (1493372 1.11) Third (1493426 -2.43) Stop 1496535 First (1494880 4.21) Second (1494910 3.36) Third (1494916 2.07) Stop 1496899 First (1496675 7.68) Second (1496825 -0.97) Third (1496669 -1.4) Stop 1497501 First (1496962 6.19) Second (1497139 -2.45) Third (1497124 -2.96) Stop 1499589 First (1498663 1.13) Second (1498597 1.02) Third (1498585 -1.2) Stop 1500179 First (1499586 3.47) Second (1499772 -3.71) Third (1499661 -5.25) Stop 1501149 First (1500481 6.29) Second (1500526 -6.25) Third (1500760 -6.53) Stop 1502889 First (1501741 5.36) Second (1501681 -1.61) Third (1501843 -4.49) Stop 1504732 First (1504196 7.16) Second (1504301 0.8) Third (1504370 -7.4) Stop 1506766 First (1504805 0.97) Second (1504877 -4.52) Third (1504763 -4.54)

Stop 1507948 First (1507511 4.73) Second (1507577 3.37) Third (1507532 3.3) Stop 1509433 First (1508027 1.22) Second (1508147 -0.44) Third (1508138 -0.56) Stop 1510823 First (1509678 8.65) Second (1509729 1.54) Third (1509720 -2.75) Stop 1511854 First (1510841 3.4) Second (1510943 -2.94) Third (1510853 -4.87) Stop 1512796 First (1511855 8.35) Second (1511861 5.83) Third (1511903 1.17) Stop 1513580 First (1512786 7.08) Second (1512996 -7.48) Third (1513287 -8.18) Stop 1515026 First (1513602 5.5) Second (1513734 -4.3) Third (1513998 -5.6) Stop 1515586 First (1515413 1.85) Second (1515365 0.83) Third (1515548 0.52) Stop 1515905 First (1515672 10.02) Second (1515738 0.42) Third (1515858 -1.66) Stop 1518088 First (1517051 5.6) Second (1517027 0.48) Third (1517210 -2.25) Stop 1518951 First (1518286 5.75) Second (1518304 3.14) Third (1518421 1.51) Stop 1522392 First (1521331 7.02) Second (1521466 0.74) Third (1521430 -1.19) Stop 1524888 First (1524271 6.41) Second (1524280 2.22) Third (1524322 -0.83) Stop 1525176 First (1524964 1.66) Second (1525096 -1.38) Third (1525114 -2.38) Stop 1527962 First (1525914 2.15) Second (1525962 1.08) Third (1526124 -4.65) Stop 1528428 First (1527946 7.4) Second (1528165 -3.78) Third (1528273 -5.47) Stop 1529356 First (1528610 3.49) Second (1528625 -1.62) Third (1528643 -3.03) Stop 1529600 First (1529556 -2.87) Second (1529475 -4.23) Third (1529400 -4.47) Stop 1530976 First (1529840 8.85) Second (1529858 1.89) Third (1529903 0.85) Stop 1531309 First (1531076 7.35) Second (1531037 -3.1) Third (1531274 -6.35) Stop 1532893 First (1532048 7.37) Second (1532228 -3.43) Third (1532330 -5.38) Stop 1546012 First (1545425 6.76) Second (1545470 2.97) Third (1545605 -1.45) Stop 1549369 First (1548485 10.91) Second (1548491 3.7) Third (1548623 -4.44) Stop 1550015 First (1549362 10.74) Second (1549344 5.13) Third (1549377 3.42) Stop 1555080 First (1554649 7.95) Second (1554913 -4.41) Third (1554730 -4.95) Stop 1601049 First (1599514 7.66) Second (1599613 -3.73) Third (1599673 -3.76) Stop 1602071 First (1601043 6.37) Second (1601214 -1.47) Third (1601259 -1.81) Stop 1603063 First (1602071 10.09) Second (1602170 -1.6) Third (1602155 -1.72) Stop 1604097 First (1603075 7.08) Second (1603138 -2.9) Third (1603252 -4.42) Stop 1604999 First (1604124 7.92) Second (1604229 0.69) Third (1604280 -2.11) Stop 1605313 First (1605023 10.04) Second (1605266 -1.32) Third (1605128 -1.59) Stop 1606128 First (1605370 9.5) Second (1605448 -1.04) Third (1605430 -7.48) Stop 1613709 First (1612828 2.88) Second (1612849 0.38) Third (1612900 -1.25) Stop 1614902 First (1613787 6.24) Second (1614195 -8.47) Third (1614270 -11.1) Stop 1616242 First (1615052 2.35) Second (1615184 -0.14) Third (1615241 -0.38) Stop 1617578 First (1617144 2.62) Second (1617201 2.41) Third (1617363 -0.56) Stop 1617981 First (1617598 3.78) Second (1617592 0.84) Third (1617547 -1.94) Stop 1618231 First (1618013 5.88) Second (1618166 -2.58) Third (1618202 -4.31) Stop 1620543 First (1619356 4.51) Second (1619443 -3.46) Third (1619581 -3.52) Stop 1621263 First (1621021 -1.32) Second (1621078 -2.98) Third (1621162 -6.53) Stop 1623315 First (1622797 1.62) Second (1623013 -1.87) Third (1622866 -4.15) Stop 1626287 First (1625541 6.21) Second (1625649 -2.54) Third (1625526 -2.76) Stop 1627062 First (1626376 2.43) Second (1626481 -3.09) Third (1626685 -4.22) Stop 1627442 First (1627239 8.42) Second (1627290 -2.28) Third (1627434 -3.99) Stop 1631329 First (1631096 5.59) Second (1631171 -1.25) Third (1631063 -1.99) Stop 1632236 First (1631646 4.3) Second (1631880 -4.91) Third (1631985 -5.01) Stop 1634490 First (1633951 0.63) Second (1633801 -0.14) Third (1633771 -1.73) Stop 1635481 First (1635071 3.05) Second (1635056 -1.66) Third (1635257 -5.39) Stop 1640091 First (1639879 2.42) Second (1639891 -1.9) Third (1640029 -2.65) Stop 1644226 First (1643921 2.05) Second (1643948 1.36) Third (1644134 -1.28) Stop 1644761 First (1644429 8.41) Second (1644570 0.87) Third (1644528 -5.08) Stop 1646365 First (1645958 2.15) Second (1646060 -4.14) Third (1646132 -7.44) Stop 1646687 First (1646532 4.12) Second (1646454 -3.97) Third (1646478 -4.61)

Stop 1646817 First (1646689 1.83) Second (1646707 1.74) Third (1646680 -0.32) Stop 1647065 First (1646847 6.3) Second (1646910 -2.04) Third (1647045 -3.62) Stop 1647821 First (1647633 4.32) Second (1647528 -2.26) Third (1647537 -6.02) Stop 1648009 First (1647818 4.41) Second (1647764 3.07) Third (1647809 0.93) Stop 1649022 First (1648102 3.42) Second (1648087 -0.46) Third (1648165 -1.51) Stop 1649561 First (1648905 1.38) Second (1648941 -2.82) Third (1649013 -3.22) Stop 1650732 First (1649536 1.35) Second (1649938 -9.31) Third (1649956 -13.4) Stop 1654173 First (1653832 5.6) Second (1653931 -3.56) Third (1654129 -3.98) Stop 1654768 First (1654208 7.51) Second (1654295 -1.76) Third (1654430 -5.25) Stop 1655894 First (1655589 7.49) Second (1655586 4.27) Third (1655547 0.45) Stop 1658519 First (1656093 8.62) Second (1656111 -0.77) Third (1656189 -2.01) Stop 1661003 First (1658607 4.77) Second (1658580 3.71) Third (1658577 2.46) Stop 1661631 First (1661014 8.76) Second (1661380 -6.22) Third (1661263 -8.51) Stop 1662487 First (1661633 2.41) Second (1661435 2.15) Third (1661393 1.37) Stop 1663144 First (1662530 5.95) Second (1662521 -2.53) Third (1662884 -6.51) Stop 1664595 First (1663339 2.74) Second (1663414 -2.4) Third (1663303 -2.4) Stop 1668976 First (1667723 4.23) Second (1667825 -2.21) Third (1667885 -9.03) Stop 1669708 First (1669373 7.07) Second (1669400 6.27) Third (1669394 0.59) Stop 1670805 First (1669984 2.47) Second (1670023 -0.83) Third (1670038 -3.7) Stop 1672971 First (1671937 2.89) Second (1671982 -3.55) Third (1672039 -4.15) Stop 1677395 First (1676451 7.74) Second (1676496 -2.9) Third (1676571 -6.71) Stop 1678963 First (1677581 3.97) Second (1677632 -0.86) Third (1677668 -2.56) Stop 1679722 First (1679000 8.07) Second (1679018 -1.35) Third (1679096 -4.22) Stop 1680902 First (1680183 -0.07) Second (1680147 -0.48) Third (1680123 -1.64) Stop 1682207 First (1680906 6.85) Second (1681032 1.08) Third (1680960 -3.3) Stop 1683212 First (1682283 3.1) Second (1682271 -0.74) Third (1682382 -3.57) Stop 1687775 First (1686600 3.38) Second (1686522 -0.48) Third (1686564 -0.88) Stop 1689384 First (1687876 4.86) Second (1687981 -4.72) Third (1688038 -7.3) Stop 1698971 First (1697379 -0.8) Second (1697016 -3.76) Third (1697175 -5.72) Stop 1700153 First (1698981 8.73) Second (1699143 -2.92) Third (1699092 -3.65) Stop 1701258 First (1700257 1.64) Second (1700566 -6.51) Third (1700572 -7.46) Stop 1703188 First (1702973 5.11) Second (1703087 3.31) Third (1703138 -10.83) Stop 1703714 First (1703274 5.24) Second (1703310 0.67) Third (1703250 -3.85) Stop 1704372 First (1703791 4.27) Second (1703905 0.13) Third (1703911 -1.99) Stop 1704950 First (1704372 2.48) Second (1704402 -2.58) Third (1704615 -4.78) Stop 1707165 First (1704943 3.31) Second (1705015 -4.56) Third (1705111 -4.88) Stop 1708224 First (1707166 7.95) Second (1707226 -3.15) Third (1707472 -6.97) Stop 1708848 First (1708228 5.18) Second (1708312 -3.98) Third (1708261 -5.75) Stop 1709547 First (1708852 4.93) Second (1708936 -7.16) Third (1708915 -7.62) Stop 1710182 First (1709547 5.39) Second (1709760 -6.0) Third (1709736 -7.14) Stop 1712295 First (1710793 3.69) Second (1710922 1.68) Third (1710952 -3.47) Stop 1713006 First (1712401 6.88) Second (1712497 1.56) Third (1712407 0.64) Stop 1715824 First (1715303 -2.27) Second (1715435 -2.63) Third (1715444 -4.47) Stop 1718367 First (1717900 9.1) Second (1717927 -0.9) Third (1717915 -2.63) Stop 1719285 First (1719049 3.79) Second (1719058 1.79) Third (1719094 -2.18) Stop 1720145 First (1719375 1.89) Second (1719288 -1.8) Third (1719279 -4.71) Stop 1722157 First (1720145 5.34) Second (1720235 -4.3) Third (1720292 -4.55) Stop 1724646 First (1724131 1.26) Second (1724047 -2.56) Third (1724164 -4.91) Stop 1725780 First (1724683 7.62) Second (1724749 -0.62) Third (1724716 -4.28) Stop 1726268 First (1725861 6.02) Second (1725936 -4.13) Third (1726146 -5.51) Stop 1727018 First (1726371 5.17) Second (1726527 -0.2) Third (1726506 -2.98) Stop 1731727 First (1727111 7.21) Second (1727150 -7.0) Third (1727255 -7.28) Stop 1733274 First (1732459 2.54) Second (1732528 -2.47) Third (1732903 -9.76)

Stop 1733983 First (1733402 8.79) Second (1733780 -9.64) Third (1733945 -14.9) Stop 1736893 First (1735868 6.09) Second (1735973 -4.39) Third (1735919 -4.6) Stop 1739146 First (1737935 5.49) Second (1738004 -2.65) Third (1737974 -4.79) Stop 1740585 First (1739437 6.83) Second (1739623 -0.32) Third (1739557 -1.3) Stop 1742854 First (1741481 2.0) Second (1741610 -2.23) Third (1741532 -2.77) Stop 1745029 First (1744724 7.73) Second (1744778 -3.78) Third (1744733 -5.73) Stop 1746759 First (1745155 5.48) Second (1745308 2.16) Third (1745278 1.02) Stop 1747718 First (1747188 -2.56) Second (1747026 -3.08) Third (1746972 -3.77) Stop 1755134 First (1753506 1.23) Second (1753722 -1.93) Third (1753803 -3.13) Stop 1755681 First (1755445 7.89) Second (1755658 -1.68) Third (1755595 -2.62) Stop 1768210 First (1767098 5.46) Second (1767164 -0.28) Third (1767512 -1.76) Stop 1768995 First (1768639 -2.88) Second (1768798 -3.57) Third (1768681 -4.03) Stop 1770309 First (1769095 4.37) Second (1769182 2.08) Third (1769170 1.58) Stop 1771801 First (1770536 6.03) Second (1770530 0.14) Third (1770782 -4.86) Stop 1772679 First (1771813 8.0) Second (1771849 -0.08) Third (1771993 -1.97) Stop 1773468 First (1772710 6.56) Second (1772893 1.64) Third (1772776 -2.46) Stop 1775206 First (1773611 5.51) Second (1773674 -0.09) Third (1773647 -2.61) Stop 1776371 First (1775220 5.34) Second (1775217 4.22) Third (1775166 2.72) Stop 1778405 First (1777641 4.68) Second (1777620 2.26) Third (1777542 1.79) Stop 1779363 First (1778425 6.94) Second (1778557 0.55) Third (1778515 -0.17) Stop 1780708 First (1779419 8.7) Second (1779551 2.44) Third (1779446 -1.35) Stop 1780998 First (1780705 7.09) Second (1780828 -0.57) Third (1780921 -13.27) Stop 1782701 First (1781055 2.44) Second (1781001 0.19) Third (1781061 -1.77) Stop 1786302 First (1785469 5.61) Second (1785550 1.68) Third (1785622 -8.09) Stop 1787505 First (1786459 -0.29) Second (1786336 -0.68) Third (1786357 -4.12) Stop 1787828 First (1787637 2.53) Second (1787610 0.25) Third (1787817 -6.58) Stop 1798506 First (1797895 -1.6) Second (1797946 -2.34) Third (1797952 -3.83) Stop 1803017 First (1801602 -5.35) Second (1801665 -6.39) Third (1801644 -7.91) Stop 1805323 First (1804394 8.31) Second (1804391 3.55) Third (1804412 -5.51) Stop 1805714 First (1805424 7.98) Second (1805481 1.49) Third (1805463 -1.21) Stop 1806680 First (1805820 7.8) Second (1805844 -1.68) Third (1806036 -8.23) Stop 1808072 First (1807404 7.33) Second (1807500 0.07) Third (1807443 -1.98) Stop 1808825 First (1808235 3.86) Second (1808223 -4.0) Third (1808307 -4.01) Stop 1810349 First (1808958 6.82) Second (1809072 -0.28) Third (1809054 -2.75) Stop 1814152 First (1811891 9.4) Second (1811966 -0.02) Third (1812146 -9.44) Stop 1821309 First (1820482 8.21) Second (1820488 2.23) Third (1820665 -2.72) Stop 1822426 First (1821539 1.28) Second (1821677 -3.32) Third (1821755 -4.09) Stop 1823640 First (1823152 0.35) Second (1823293 -1.71) Third (1823239 -3.59) Stop 1831258 First (1830440 4.31) Second (1830452 -0.15) Third (1830728 -0.64) Stop 1832135 First (1831425 4.76) Second (1831377 -3.52) Third (1831629 -3.52) Stop 1832817 First (1831978 1.73) Second (1832140 0.41) Third (1832077 -2.48) Stop 1833539 First (1832841 6.29) Second (1832832 4.9) Third (1832835 3.83) Stop 1834087 First (1833539 5.42) Second (1833791 -2.09) Third (1833776 -5.6) Stop 1835263 First (1834097 8.38) Second (1834094 3.81) Third (1834265 -1.14) Stop 1836771 First (1835236 4.86) Second (1835284 -2.41) Third (1835290 -3.24) Stop 1837424 First (1836684 4.26) Second (1836771 2.6) Third (1836738 -0.1) Stop 1838798 First (1837491 5.63) Second (1837476 -0.43) Third (1837509 -1.3) Stop 1839921 First (1839520 2.43) Second (1839514 1.27) Third (1839889 -3.51) Stop 1841738 First (1840395 6.89) Second (1840488 -3.52) Third (1840677 -5.63) Stop 1848717 First (1846861 5.29) Second (1846717 -1.3) Third (1846987 -2.24) Stop 1849900 First (1848932 -0.22) Second (1848962 -4.1) Third (1849070 -4.82) Stop 1850552 First (1849911 9.2) Second (1849893 1.21) Third (1849998 -0.82) Stop 1861790 First (1860795 5.13) Second (1860786 -0.86) Third (1860915 -1.48)
Stop 1862758 First (1861874 4.93) Second (1861853 1.69) Third (1861961 -1.97) Stop 1866866 First (1864932 6.22) Second (1865082 -0.5) Third (1865061 -0.77) Stop 1868262 First (1866979 7.8) Second (1867105 -2.99) Third (1867165 -3.2) Stop 1869884 First (1868409 - 1.57) Second (1868433 - 1.99) Third (1868541 - 5.18) Stop 1871555 First (1870065 3.45) Second (1869912 -1.58) Third (1869978 -3.07) Stop 1872101 First (1871598 6.3) Second (1871607 1.36) Third (1871622 0.72) Stop 1872822 First (1872376 6.06) Second (1872391 -5.1) Third (1872562 -5.27) Stop 1874878 First (1873697 3.09) Second (1873757 -3.73) Third (1873928 -7.83) Stop 1875280 First (1874933 7.53) Second (1874912 -2.48) Third (1875275 -15.2) Stop 1876764 First (1875832 -1.92) Second (1875739 -2.56) Third (1875844 -4.81) Stop 1881021 First (1879939 2.89) Second (1879936 1.94) Third (1879948 1.32) Stop 1882657 First (1881236 -0.43) Second (1881227 -2.86) Third (1881218 -3.02) Stop 1883813 First (1882689 1.69) Second (1882569 -5.67) Third (1882596 -8.31) Stop 1884834 First (1883869 6.95) Second (1884001 0.12) Third (1883884 -0.21) Stop 1891735 First (1891391 5.75) Second (1891388 4.56) Third (1891343 -3.27) Stop 1892456 First (1892157 7.71) Second (1892097 3.51) Third (1892133 1.12) Stop 1894190 First (1892829 3.84) Second (1892922 -5.4) Third (1892850 -5.73) Stop 1894772 First (1894194 4.24) Second (1894293 -1.79) Third (1894245 -5.47) Stop 1896320 First (1894956 3.74) Second (1894974 -0.27) Third (1895022 -0.72) Stop 1898049 First (1896451 2.96) Second (1896496 -1.27) Third (1896442 -6.28) Stop 1901043 First (1900072 8.14) Second (1900120 -1.11) Third (1900138 -1.65) Stop 1901906 First (1901106 6.97) Second (1901163 -2.15) Third (1901295 -3.07) Stop 1902770 First (1901919 4.85) Second (1901910 2.04) Third (1902027 1.56) Stop 1903283 First (1902825 7.55) Second (1902900 -4.06) Third (1903062 -4.69) Stop 1904278 First (1903679 2.76) Second (1903712 2.63) Third (1903886 -2.11) Stop 1907188 First (1906949 4.67) Second (1907060 -1.88) Third (1907024 -3.09) Stop 1909673 First (1908300 -0.57) Second (1908189 -1.8) Third (1908378 -4.59) Stop 1915565 First (1914327 -1.87) Second (1914282 -3.16) Third (1914606 -5.23) Stop 1918167 First (1915534 4.53) Second (1915528 -2.67) Third (1915492 -3.51) Stop 1919686 First (1918292 0.13) Second (1918241 -1.33) Third (1918304 -3.95) Stop 1920040 First (1919804 6.42) Second (1919789 0.31) Third (1919816 -1.96) Stop 1920336 First (1920145 3.3) Second (1920061 0.91) Third (1920073 0.48) Stop 1923362 First (1923132 5.94) Second (1923045 2.47) Third (1923168 1.77) Stop 1924120 First (1923464 6.31) Second (1923548 -1.61) Third (1923869 -7.45) Stop 1924806 First (1924144 -0.23) Second (1924147 -2.08) Third (1924285 -5.22) Stop 1927551 First (1926949 5.35) Second (1926952 2.78) Third (1927012 -1.39) Stop 1930083 First (1928905 5.72) Second (1928983 -1.69) Third (1929085 -6.47) Stop 1935545 First (1934676 2.91) Second (1934793 -1.37) Third (1934715 -1.61) Stop 1937115 First (1935673 4.01) Second (1935532 0.53) Third (1935817 -3.53) Stop 1941441 First (1940686 1.48) Second (1940782 -2.76) Third (1940752 -7.03) Stop 1942223 First (1941438 5.04) Second (1941477 0.65) Third (1941528 -1.0) Stop 1944877 First (1944176 -2.36) Second (1944275 -3.34) Third (1944248 -6.94) Stop 1949422 First (1948856 8.12) Second (1948823 -1.09) Third (1948889 -6.01) Stop 1950237 First (1949419 2.95) Second (1949467 -2.63) Third (1949461 -4.47) Stop 1950685 First (1950290 2.37) Second (1950332 -3.94) Third (1950131 -6.17) Stop 1951469 First (1950726 3.62) Second (1950816 -2.42) Third (1950867 -5.35) Stop 1952437 First (1951466 4.91) Second (1951577 -5.4) Third (1951712 -5.72) Stop 1959819 First (1958086 3.32) Second (1958128 0.92) Third (1958218 -0.66) Stop 1960484 First (1959996 4.3) Second (1959975 2.18) Third (1960137 -5.06) Stop 1978205 First (1977777 7.42) Second (1977933 -2.96) Third (1977957 -4.59) Stop 1985451 First (1984948 6.83) Second (1984963 -2.49) Third (1984987 -2.92) Stop 1985805 First (1985533 0.16) Second (1985623 -0.75) Third (1985467 -0.91) Stop 1986568 First (1986245 -1.59) Second (1986314 -3.21) Third (1986371 -3.92)

Stop 1987236 First (1986739 4.54) Second (1986754 1.82) Third (1986889 1.07) Stop 1988915 First (1987704 1.44) Second (1987773 0.26) Third (1987737 -0.42) Stop 1994065 First (1993841 8.7) Second (1993964 -0.29) Third (1993973 -0.32) Stop 2003301 First (2001895 3.23) Second (2002084 -13.54) Third (2002507 -16.5) Stop 2003736 First (2003326 7.61) Second (2003461 0.48) Third (2003383 0.36) Stop 2004101 First (2003736 1.95) Second (2003796 -2.94) Third (2003883 -4.73) Stop 2005666 First (2004179 5.88) Second (2004290 -3.16) Third (2004497 -7.59) Stop 2007505 First (2006300 6.18) Second (2006558 -5.45) Third (2006330 -7.28) Stop 2007735 First (2007502 9.0) Second (2007616 -0.57) Third (2007583 -1.24) Stop 2008497 First (2007844 10.02) Second (2008225 -6.04) Third (2008099 -7.95) Stop 2009101 First (2008622 4.46) Second (2008673 -1.72) Third (2008850 -1.8) Stop 2010802 First (2010608 -0.27) Second (2010560 -0.5) Third (2010524 -1.55) Stop 2012909 First (2011251 5.33) Second (2011458 -4.5) Third (2011356 -4.62) Stop 2013897 First (2012902 5.29) Second (2012944 0.62) Third (2013022 0.22) Stop 2014576 First (2013890 7.15) Second (2013869 0.37) Third (2013956 0.31) Stop 2015949 First (2014576 5.45) Second (2014630 0.11) Third (2014711 -2.62) Stop 2016411 First (2015968 7.81) Second (2016049 4.12) Third (2016088 -0.27) Stop 2017535 First (2016408 8.49) Second (2016456 -4.06) Third (2016504 -5.34) Stop 2018104 First (2017640 4.18) Second (2017919 -7.02) Third (2017790 -7.44) Stop 2019113 First (2018064 2.71) Second (2018007 0.53) Third (2018109 -2.46) Stop 2019523 First (2019110 6.38) Second (2019119 2.76) Third (2019281 0.27) Stop 2019891 First (2019526 2.5) Second (2019523 -1.44) Third (2019544 -2.79) Stop 2020628 First (2019891 7.96) Second (2019903 -2.74) Third (2020257 -4.53) Stop 2020907 First (2020638 6.91) Second (2020677 5.16) Third (2020662 -0.39) Stop 2021700 First (2020915 -0.58) Second (2021059 -3.8) Third (2020828 -4.43) Stop 2022613 First (2021990 6.02) Second (2022005 0.21) Third (2022050 -0.59) Stop 2023235 First (2023008 6.05) Second (2023005 4.57) Third (2022993 0.08) Stop 2024348 First (2023533 6.87) Second (2023692 -5.18) Third (2023701 -5.44) Stop 2028481 First (2027561 7.37) Second (2027651 -2.81) Third (2027672 -3.26) Stop 2032558 First (2032073 4.16) Second (2032043 0.69) Third (2032094 -1.72) Stop 2032777 First (2032568 -0.51) Second (2032685 -1.23) Third (2032580 -3.48) Stop 2033265 First (2032876 - 3.42) Second (2032897 - 3.95) Third (2032861 - 6.32) Stop 2034708 First (2033857 6.92) Second (2033971 -4.77) Third (2034037 -5.09) Stop 2037391 First (2036978 4.54) Second (2037077 -7.58) Third (2037068 -7.85) Stop 2038504 First (2037557 1.88) Second (2037500 1.4) Third (2037572 -1.36) Stop 2039140 First (2038505 7.63) Second (2038622 -0.8) Third (2038526 -1.85) Stop 2040047 First (2039397 3.66) Second (2039715 -9.92) Third (2040036 -13.33) Stop 2040920 First (2040390 6.87) Second (2040360 1.38) Third (2040366 1.37) Stop 2042470 First (2041673 3.21) Second (2041634 -1.65) Third (2042057 -9.53) Stop 2050036 First (2042933 5.05) Second (2042960 4.56) Third (2042885 -2.9) Stop 2052981 First (2051665 5.07) Second (2051845 -0.86) Third (2051950 -1.62) Stop 2054537 First (2053083 2.98) Second (2052927 -0.79) Third (2053065 -1.68) Stop 2055596 First (2054880 5.5) Second (2055117 -5.05) Third (2055156 -5.73) Stop 2067049 First (2066657 4.86) Second (2066645 -0.85) Third (2066630 -3.05) Stop 2068526 First (2068374 0.43) Second (2068266 -0.65) Third (2068419 -2.45) Stop 2069233 First (2068523 -3.28) Second (2068634 -7.46) Third (2068808 -8.07) Stop 2072680 First (2069561 2.09) Second (2069405 -1.41) Third (2069606 -2.23) Stop 2074333 First (2072801 6.53) Second (2072795 -1.36) Third (2072909 -3.01) Stop 2074776 First (2074330 6.02) Second (2074450 -0.38) Third (2074402 -4.86) Stop 2075060 First (2074839 2.66) Second (2074866 -5.22) Third (2074983 -8.16) Stop 2075502 First (2075134 5.59) Second (2075254 1.96) Third (2075209 1.17) Stop 2075965 First (2075591 4.73) Second (2075900 -6.01) Third (2075807 -6.76) Stop 2076156 First (2075965 7.84) Second (2075962 6.3) Third (2076007 3.11)

Stop 2082205 First (2080778 1.11) Second (2080781 1.1) Third (2080730 -1.84) Stop 2088068 One prediction (2088018 5.46) Stop 2089113 First (2088214 6.9) Second (2088244 -3.9) Third (2088337 -5.31) Stop 2090423 First (2089119 5.98) Second (2089110 0.17) Third (2089182 -1.53) Stop 2091490 First (2090420 8.54) Second (2090429 -1.15) Third (2090651 -8.78) Stop 2092557 First (2091490 6.09) Second (2091487 0.36) Third (2091559 -0.05) Stop 2093147 First (2092557 6.28) Second (2092563 -2.7) Third (2092794 -5.25) Stop 2093884 First (2093147 5.15) Second (2093279 -3.91) Third (2093144 -4.96) Stop 2094642 First (2093866 7.64) Second (2094007 -3.36) Third (2094070 -3.98) Stop 2095247 First (2094636 6.45) Second (2094744 1.32) Third (2094696 -2.24) Stop 2137507 First (2135924 1.76) Second (2135885 -1.11) Third (2136086 -2.83) Stop 2144605 First (2141288 4.07) Second (2141444 -8.21) Third (2141558 -9.36) Stop 2147048 First (2145696 -1.41) Second (2145774 -6.96) Third (2145804 -8.84) Stop 2149668 First (2149207 7.68) Second (2149225 1.56) Third (2149282 0.0) Stop 2153285 First (2151918 1.73) Second (2152038 0.53) Third (2151891 -0.42) Stop 2156407 First (2153285 4.44) Second (2153336 -1.78) Third (2153486 -4.0) Stop 2159485 First (2156408 8.91) Second (2156645 0.41) Third (2156498 0.27) Stop 2160901 First (2159486 2.64) Second (2159624 1.1) Third (2159546 -0.43) Stop 2162301 First (2160898 3.75) Second (2160976 -2.24) Third (2160964 -11.31) Stop 2163020 First (2162298 2.88) Second (2162445 -4.88) Third (2162484 -5.02) Stop 2163543 First (2163211 8.48) Second (2163172 -0.23) Third (2163346 -2.17) Stop 2165051 First (2163690 3.78) Second (2163735 3.48) Third (2163972 -4.71) Stop 2167633 First (2166734 2.78) Second (2166830 2.12) Third (2166809 -3.11) Stop 2168557 First (2168258 6.45) Second (2168249 -2.3) Third (2168453 -3.8) Stop 2169420 First (2168554 1.91) Second (2168605 -3.32) Third (2168614 -4.78) Stop 2178118 First (2176841 8.63) Second (2176871 0.55) Third (2176868 0.28) Stop 2179119 First (2178115 9.78) Second (2178169 4.02) Third (2178175 3.73) Stop 2180081 First (2179116 7.63) Second (2179365 -5.63) Third (2179173 -5.94) Stop 2184761 First (2183937 3.57) Second (2184045 -0.4) Third (2184096 -4.12) Stop 2185318 First (2184980 -1.61) Second (2184800 -4.11) Third (2185151 -7.24) Stop 2194353 First (2192311 3.62) Second (2192320 1.24) Third (2192440 0.58) Stop 2195318 First (2194494 5.22) Second (2194563 -0.95) Third (2194686 -2.88) Stop 2197367 First (2195523 - 3.61) Second (2195430 -6.19) Third (2195877 - 13.05) Stop 2198289 First (2197288 0.59) Second (2197597 -5.06) Third (2197441 -5.35) Stop 2201931 First (2198299 7.51) Second (2198401 -1.17) Third (2198446 -3.86) Stop 2202309 First (2201992 4.18) Second (2201998 0.22) Third (2202190 -10.66) Stop 2203704 First (2202616 4.4) Second (2202550 -1.52) Third (2202658 -8.85) Stop 2205994 First (2203715 2.13) Second (2203574 -0.38) Third (2203640 -7.82) Stop 2207123 First (2205987 2.83) Second (2205759 0.07) Third (2205852 -9.79) Stop 2208964 First (2207120 5.42) Second (2207096 2.58) Third (2207348 -2.24) Stop 2209706 First (2209245 7.59) Second (2209233 4.28) Third (2209398 -2.08) Stop 2213617 First (2212886 3.78) Second (2212970 -4.45) Third (2213087 -5.25) Stop 2221920 First (2220205 8.42) Second (2220214 2.95) Third (2220172 1.34) Stop 2224399 First (2223821 6.22) Second (2223785 2.78) Third (2223896 -0.66) Stop 2229042 First (2228644 5.36) Second (2228770 -2.39) Third (2228608 -2.82) Stop 2229734 First (2229042 5.08) Second (2229039 4.96) Third (2229219 -3.01) Stop 2230748 First (2229864 5.98) Second (2229909 -0.32) Third (2229957 -6.68) Stop 2231617 First (2230898 3.57) Second (2230910 -3.45) Third (2230976 -4.4) Stop 2231859 First (2231620 7.42) Second (2231746 -3.85) Third (2231791 -6.13) Stop 2233291 First (2232053 7.11) Second (2232392 -8.7) Third (2232278 -11.0) Stop 2234520 First (2233285 5.01) Second (2233279 -0.53) Third (2233378 -1.7) Stop 2242766 First (2241930 6.27) Second (2241936 4.89) Third (2242011 -1.58) Stop 2248786 First (2247737 7.87) Second (2248112 -7.43) Third (2247899 -7.8)

Stop 2249717 First (2248860 4.65) Second (2249142 -8.12) Third (2249172 -8.45) Stop 2250808 First (2249843 2.56) Second (2249921 1.75) Third (2249720 1.53) Stop 2254034 First (2253336 2.51) Second (2253375 1.79) Third (2253372 -3.54) Stop 2263064 First (2261883 1.39) Second (2262309 -8.1) Third (2262258 -9.19) Stop 2264042 First (2263215 2.66) Second (2263227 0.85) Third (2263470 0.56) Stop 2265731 First (2264265 2.15) Second (2264256 -1.31) Third (2264469 -3.32) Stop 2266835 First (2265849 2.12) Second (2266062 -4.63) Third (2265990 -5.62) Stop 2267587 First (2266874 2.73) Second (2266886 -3.42) Third (2266967 -4.44) Stop 2268565 First (2267999 6.2) Second (2268032 -0.42) Third (2268104 -1.86) Stop 2270302 First (2268746 5.42) Second (2268809 2.02) Third (2268824 -5.02) Stop 2272198 First (2270384 4.6) Second (2270378 2.12) Third (2270390 -3.87) Stop 2273293 First (2272199 8.5) Second (2272451 -5.04) Third (2272226 -5.42) Stop 2274318 First (2273293 7.83) Second (2273383 -2.06) Third (2273437 -6.76) Stop 2275909 First (2274320 3.27) Second (2274275 -1.18) Third (2274272 -2.94) Stop 2280412 First (2278769 -3.04) Second (2278652 -3.14) Third (2278688 -3.43) Stop 2280821 First (2280537 2.8) Second (2280441 -2.02) Third (2280678 -2.37) Stop 2282376 First (2282149 3.24) Second (2282266 0.86) Third (2282191 -0.81) Stop 2284156 First (2282396 2.05) Second (2282438 1.75) Third (2282651 -4.03) Stop 2287047 First (2286925 -0.96) Second (2286997 -4.48) Third (2287030 -8.68) Stop 2289167 First (2288520 6.32) Second (2288571 1.1) Third (2288490 -0.95) Stop 2302413 First (2301925 8.11) Second (2301904 4.12) Third (2302042 -0.63) Stop 2310676 First (2309606 -6.0) Second (2310182 -21.91) Third (2310644 -27.57) Stop 2314180 First (2311508 4.58) Second (2311616 2.07) Third (2311592 -3.03) Stop 2314847 First (2314197 3.71) Second (2314161 1.42) Third (2314206 0.47) Stop 2319889 First (2318063 4.1) Second (2318051 1.56) Third (2318072 -0.75) Stop 2321271 First (2319886 4.53) Second (2320057 -2.01) Third (2320093 -2.57) Stop 2322129 First (2321467 8.89) Second (2321545 3.31) Third (2321482 1.37) Stop 2322779 First (2322129 7.65) Second (2322216 0.08) Third (2322159 -7.13) Stop 2324098 First (2322776 7.47) Second (2322800 0.79) Third (2322848 -2.65) Stop 2325313 First (2324129 8.59) Second (2324480 -0.19) Third (2324285 -0.8) Stop 2338309 First (2337587 3.62) Second (2337581 3.12) Third (2337539 -1.16) Stop 2345170 First (2342885 3.13) Second (2342903 -4.05) Third (2343275 -7.93) Stop 2346534 First (2345185 2.5) Second (2345272 1.62) Third (2345173 0.32) Stop 2346788 First (2346534 1.21) Second (2346741 -0.35) Third (2346624 -0.71) Stop 2347913 First (2347707 3.68) Second (2347779 -2.27) Third (2347893 -3.16) Stop 2352295 First (2350667 7.88) Second (2350697 -2.04) Third (2350766 -2.99) Stop 2353544 First (2352285 1.89) Second (2352261 -3.72) Third (2352306 -4.61) Stop 2354731 First (2353541 7.81) Second (2353466 -2.33) Third (2353481 -3.78) Stop 2355823 First (2354924 3.93) Second (2354975 1.99) Third (2355116 -3.86) Stop 2362999 First (2362574 2.59) Second (2362844 -2.62) Third (2362637 -3.77) Stop 2365087 First (2363948 6.24) Second (2363930 4.78) Third (2363915 0.13) Stop 2366059 First (2365091 6.4) Second (2365124 0.19) Third (2365298 -2.28) Stop 2368041 First (2366059 6.5) Second (2366089 -1.41) Third (2366191 -5.75) Stop 2368928 First (2368038 5.62) Second (2368170 1.6) Third (2368116 -1.16) Stop 2370580 First (2368928 4.95) Second (2369051 -0.71) Third (2369075 -6.89) Stop 2370912 First (2370577 -2.74) Second (2370655 -2.77) Third (2370781 -5.15) Stop 2371298 First (2370630 1.82) Second (2370912 -0.61) Third (2370711 -2.37) Stop 2375004 First (2373841 -2.62) Second (2374171 -8.03) Third (2374426 -14.71) Stop 2380545 First (2379610 1.45) Second (2379628 0.98) Third (2379661 -0.86) Stop 2381944 First (2380736 7.02) Second (2380733 4.03) Third (2380811 -6.11) Stop 2384851 First (2383880 -1.29) Second (2383931 -2.76) Third (2383874 -5.76) Stop 2385457 First (2384954 8.31) Second (2384960 3.47) Third (2385032 -1.58) Stop 2387077 First (2386655 3.43) Second (2386601 -2.24) Third (2386628 -4.17)

Stop 2387984 First (2387136 5.18) Second (2387133 0.51) Third (2387262 -1.37) Stop 2406798 First (2405581 5.37) Second (2405848 -4.47) Third (2405824 -4.6) Stop 2407481 First (2406882 5.5) Second (2406996 0.41) Third (2406969 -1.13) Stop 2412692 First (2411490 4.29) Second (2411631 -4.28) Third (2412075 -12.98) Stop 2414911 First (2412767 4.8) Second (2412782 -0.79) Third (2412845 -1.36) Stop 2416621 First (2415101 4.08) Second (2415143 -1.07) Third (2415212 -2.41) Stop 2419288 First (2418641 5.82) Second (2418722 -1.52) Third (2418770 -2.12) Stop 2419707 First (2419345 6.7) Second (2419450 -1.12) Third (2419387 -2.41) Stop 2420621 First (2419728 7.22) Second (2419737 -0.28) Third (2419773 -7.0) Stop 2436965 First (2435970 8.49) Second (2436090 2.86) Third (2436099 -4.64) Stop 2439535 First (2438351 -0.56) Second (2438300 -4.18) Third (2438336 -5.19) Stop 2441790 First (2439724 2.46) Second (2439784 1.28) Third (2439964 -9.02) Stop 2447177 First (2446626 5.86) Second (2446680 -3.22) Third (2446677 -4.01) Stop 2453546 First (2453010 1.86) Second (2453082 -3.83) Third (2453046 -5.53) Stop 2454961 First (2454809 -2.73) Second (2454827 -7.11) Third (2454710 -7.14) Stop 2460666 First (2459326 5.64) Second (2459320 1.47) Third (2459515 -3.33) Stop 2462090 First (2461032 4.47) Second (2461416 -9.24) Third (2461755 -18.18) Stop 2464253 First (2463321 0.87) Second (2463489 -3.23) Third (2463528 -4.22) Stop 2465722 First (2464565 3.37) Second (2464529 -0.37) Third (2464736 -2.0) Stop 2466237 First (2465875 0.72) Second (2466067 -1.68) Third (2466004 -2.83) Stop 2467154 First (2466234 7.25) Second (2466333 -4.83) Third (2466576 -4.92) Stop 2468482 First (2467151 2.61) Second (2467226 -2.9) Third (2467223 -3.54) Stop 2469125 First (2468823 2.8) Second (2468781 2.42) Third (2469012 -2.11) Stop 2471986 First (2471624 7.34) Second (2471540 -0.05) Third (2471609 -3.9) Stop 2472876 First (2472052 7.41) Second (2472313 -5.41) Third (2472151 -6.69) Stop 2473540 First (2473004 5.11) Second (2473070 -3.44) Third (2473205 -4.32) Stop 2473893 First (2473531 6.74) Second (2473537 1.64) Third (2473552 -0.1) Stop 2474198 First (2473893 7.58) Second (2474046 -4.56) Third (2474109 -5.05) Stop 2477204 First (2475867 6.07) Second (2476017 2.23) Third (2475996 1.6) Stop 2478550 First (2477222 2.04) Second (2477237 1.9) Third (2477264 -8.36) Stop 2480221 First (2479994 2.69) Second (2480030 -1.62) Third (2479925 -3.46) Stop 2482389 First (2481775 5.3) Second (2481895 -3.37) Third (2481865 -4.38) Stop 2485987 First (2482394 1.65) Second (2482568 -7.01) Third (2482754 -10.39) Stop 2492993 First (2492718 6.1) Second (2492847 -2.13) Third (2492766 -2.14) Stop 2494585 First (2493665 3.1) Second (2493599 -2.77) Third (2493896 -4.19) Stop 2498388 First (2496742 3.37) Second (2496691 0.02) Third (2496709 -3.73) Stop 2499137 First (2498403 3.74) Second (2498478 0.3) Third (2498385 -1.92) Stop 2500007 First (2499150 7.01) Second (2499372 -2.14) Third (2499165 -2.81) Stop 2508906 First (2507650 8.8) Second (2507674 1.58) Third (2507740 -1.15) Stop 2509347 Two predictions First (2509021 9.83) Second (2509054 -2.68) Stop 2509429 First (2509268 -1.48) Second (2509370 -2.34) Third (2509196 -2.61) Stop 2512264 First (2511062 6.44) Second (2511248 -0.84) Third (2511023 -2.94) Stop 2513463 First (2512351 0.27) Second (2512345 -0.14) Third (2512513 -6.75) Stop 2516831 First (2516472 5.25) Second (2516487 4.28) Third (2516796 -6.96) Stop 2517225 First (2516833 2.91) Second (2516854 1.9) Third (2516953 -2.67) Stop 2523911 First (2523147 5.84) Second (2523357 -0.84) Third (2523243 -9.15) Stop 2525964 First (2524966 7.04) Second (2525107 -4.02) Third (2525014 -5.57) Stop 2530244 First (2529483 6.54) Second (2529666 -2.11) Third (2529867 -5.14) Stop 2531400 First (2530429 6.44) Second (2530786 -4.65) Third (2530573 -4.72) Stop 2532041 First (2531784 6.28) Second (2531964 -3.38) Third (2531886 -3.73) Stop 2533813 First (2532086 6.49) Second (2532317 -1.5) Third (2532377 -4.57) Stop 2534363 First (2533854 8.02) Second (2533860 1.81) Third (2534031 0.91) Stop 2535736 First (2535362 6.99) Second (2535494 -0.07) Third (2535398 -0.92)

Stop 2536503 First (2535769 9.25) Second (2535988 -3.2) Third (2535949 -5.55) Stop 2544689 First (2543793 5.23) Second (2543808 2.25) Third (2543868 -3.07) Stop 2546117 First (2544693 7.3) Second (2544780 -0.69) Third (2544864 -1.95) Stop 2547426 First (2546122 2.62) Second (2546134 -1.08) Third (2546035 -2.2) Stop 2548577 First (2547651 0.69) Second (2547798 -3.33) Third (2547834 -4.84) Stop 2551241 First (2550372 2.11) Second (2550456 -2.66) Third (2550432 -3.26) Stop 2552144 First (2551245 4.17) Second (2551386 -4.8) Third (2551389 -5.8) Stop 2558086 First (2556878 -1.83) Second (2556791 -4.03) Third (2556980 -4.55) Stop 2558918 First (2558391 5.9) Second (2558277 2.85) Third (2558400 -3.9) Stop 2559633 First (2559391 3.41) Second (2559388 -0.14) Third (2559439 -6.07) Stop 2560013 First (2559645 4.71) Second (2559630 -0.5) Third (2559702 -5.15) Stop 2560547 First (2560131 8.43) Second (2560365 -0.63) Third (2560338 -2.01) Stop 2561137 First (2560544 5.92) Second (2560835 -3.91) Third (2560823 -4.71) Stop 2561989 First (2561612 9.35) Second (2561639 -1.83) Third (2561597 -3.04) Stop 2562392 First (2562000 11.45) Second (2562006 5.65) Third (2562162 3.87) Stop 2563352 First (2562543 6.0) Second (2562522 2.0) Third (2562588 -1.25) Stop 2577636 First (2576686 9.47) Second (2576890 -2.92) Third (2576725 -5.53) Stop 2579659 First (2577656 5.61) Second (2577620 0.02) Third (2577698 -4.31) Stop 2585451 First (2583751 2.96) Second (2583736 1.22) Third (2583901 -0.34) Stop 2588728 First (2585615 6.34) Second (2585819 -2.14) Third (2585669 -3.09) Stop 2589623 First (2589267 7.76) Second (2589390 -2.71) Third (2589522 -5.04) Stop 2590754 First (2589627 7.71) Second (2589711 -2.56) Third (2589753 -2.98) Stop 2598498 First (2597926 1.77) Second (2598079 -2.81) Third (2598166 -4.4) Stop 2598968 First (2598498 8.62) Second (2598570 1.8) Third (2598831 -3.1) Stop 2599838 First (2599221 5.17) Second (2599182 0.09) Third (2599233 -4.63) Stop 2601856 First (2599838 5.72) Second (2600189 -5.86) Third (2599967 -7.39) Stop 2602814 First (2601867 7.62) Second (2601933 -0.25) Third (2602077 -2.2) Stop 2604270 First (2602831 7.39) Second (2602927 -1.29) Third (2603035 -3.12) Stop 2604932 First (2604282 10.0) Second (2604324 2.09) Third (2604321 1.62) Stop 2606517 First (2604937 6.58) Second (2604952 3.78) Third (2604949 1.09) Stop 2608174 First (2606507 2.64) Second (2606462 -0.15) Third (2606624 -4.06) Stop 2608729 First (2608184 5.52) Second (2608208 3.93) Third (2608289 -0.09) Stop 2609484 First (2608726 8.55) Second (2608789 2.53) Third (2608735 0.3) Stop 2609890 First (2609477 6.73) Second (2609414 -2.24) Third (2609546 -3.62) Stop 2611932 First (2609920 6.28) Second (2609926 4.76) Third (2609986 0.56) Stop 2612802 First (2611954 6.46) Second (2612062 -0.53) Third (2612068 -3.32) Stop 2615577 First (2614114 3.61) Second (2614267 -2.33) Third (2614126 -5.08) Stop 2615957 First (2615598 6.46) Second (2615694 -1.4) Third (2615691 -2.07) Stop 2619003 First (2618098 1.72) Second (2618323 -5.89) Third (2618374 -14.23) Stop 2620254 First (2619217 2.73) Second (2619202 -0.21) Third (2619331 -0.34) Stop 2620892 First (2620254 0.48) Second (2620266 -2.01) Third (2620263 -2.44) Stop 2623130 First (2621064 5.6) Second (2621058 4.62) Third (2621169 -1.59) Stop 2624676 First (2623135 -1.76) Second (2623096 -2.89) Third (2623300 -4.49) Stop 2627501 First (2627328 3.44) Second (2627310 2.88) Third (2627358 -0.48) Stop 2628330 First (2627815 5.56) Second (2627812 0.52) Third (2627848 -2.22) Stop 2628885 First (2628346 9.54) Second (2628409 -6.41) Third (2628832 -9.28) Stop 2633622 First (2632252 0.94) Second (2632330 0.22) Third (2632435 -2.42) Stop 2642947 First (2642429 -1.2) Second (2642534 -2.16) Third (2642420 -3.3) Stop 2651359 First (2650355 3.54) Second (2650514 0.66) Third (2650421 0.47) Stop 2662265 First (2661462 2.58) Second (2661471 -0.43) Third (2661579 -1.31) Stop 2663264 First (2662410 6.79) Second (2662422 -1.65) Third (2662383 -1.81) Stop 2664735 First (2663458 6.39) Second (2663455 6.27) Third (2663434 1.21) Stop 2668413 First (2667052 7.89) Second (2667238 -4.07) Third (2667070 -4.69)

Stop 2668928 First (2668410 9.59) Second (2668539 0.09) Third (2668662 -3.78) Stop 2669248 First (2668928 3.98) Second (2669072 -2.42) Third (2668961 -5.12) Stop 2670057 First (2669245 6.62) Second (2669425 -2.68) Third (2669656 -8.47) Stop 2671269 First (2670067 6.6) Second (2670115 1.78) Third (2670340 -5.06) Stop 2671788 First (2671366 3.98) Second (2671321 3.07) Third (2671294 2.53) Stop 2676748 First (2676422 -0.12) Second (2676374 -2.49) Third (2676527 -8.25) Stop 2682076 First (2680883 3.45) Second (2680877 2.49) Third (2680931 -4.68) Stop 2683524 First (2682235 - 3.44) Second (2682577 - 7.53) Third (2682844 - 12.83) Stop 2685045 First (2683855 6.33) Second (2683834 4.49) Third (2683987 0.14) Stop 2695377 First (2693821 2.49) Second (2693959 0.46) Third (2693953 -2.12) Stop 2696246 First (2695980 -2.07) Second (2695854 -3.87) Third (2695836 -7.12) Stop 2697627 First (2696779 3.32) Second (2696707 -1.73) Third (2696731 -4.95) Stop 2697943 First (2697758 4.57) Second (2697683 4.38) Third (2697722 -1.7) Stop 2710062 First (2708440 3.43) Second (2708605 -4.78) Third (2708650 -4.85) Stop 2712250 First (2710916 7.22) Second (2711183 -4.02) Third (2711264 -7.33) Stop 2714030 First (2713443 7.53) Second (2713602 1.34) Third (2713494 1.15) Stop 2714580 First (2714203 1.99) Second (2714254 -7.78) Third (2714257 -8.44) Stop 2715463 First (2714774 6.34) Second (2714945 -4.84) Third (2714948 -5.15) Stop 2717174 First (2716755 7.5) Second (2716917 -3.17) Third (2716920 -4.05) Stop 2717941 First (2717192 0.13) Second (2717243 -1.88) Third (2717219 -2.32) Stop 2720633 First (2717973 6.42) Second (2718066 0.26) Third (2718063 -0.36) Stop 2722102 First (2720747 -0.78) Second (2720744 -2.23) Third (2720993 -5.12) Stop 2722471 First (2722148 3.53) Second (2722199 2.31) Third (2722319 -1.5) Stop 2734903 First (2734166 4.07) Second (2734175 -1.64) Third (2734187 -2.18) Stop 2735139 First (2735095 -0.89) Second (2734963 -4.22) Third (2735074 -5.46) Stop 2735515 First (2735174 7.32) Second (2735180 2.21) Third (2735201 -1.94) Stop 2735666 One prediction (2735619 7.14) Stop 2736925 First (2735765 5.41) Second (2735867 -7.56) Third (2735927 -8.87) Stop 2739745 First (2739383 4.3) Second (2739380 3.49) Third (2739491 -4.59) Stop 2740413 First (2739895 6.53) Second (2739997 -4.01) Third (2740156 -4.98) Stop 2741629 First (2740406 3.99) Second (2740403 3.2) Third (2740469 -2.82) Stop 2742127 First (2741645 7.36) Second (2741744 0.44) Third (2741831 -6.8) Stop 2746773 First (2745907 3.46) Second (2745982 -3.15) Third (2745916 -6.55) Stop 2747408 First (2746881 -2.49) Second (2746839 -3.31) Third (2746842 -5.11) Stop 2748081 First (2747398 3.88) Second (2747416 -3.33) Third (2747509 -4.48) Stop 2748855 First (2748103 -2.02) Second (2748268 -6.56) Third (2748478 -12.81) Stop 2749730 First (2748852 3.51) Second (2748924 -4.04) Third (2748882 -5.33) Stop 2751477 First (2749816 1.61) Second (2749819 -2.54) Third (2749885 -4.85) Stop 2751967 First (2751626 6.06) Second (2751815 -1.37) Third (2751701 -2.39) Stop 2753399 First (2752917 1.5) Second (2753133 -4.09) Third (2753250 -7.24) Stop 2755421 First (2754180 7.21) Second (2754144 -1.95) Third (2754153 -4.05) Stop 2756877 First (2756665 6.55) Second (2756725 -2.49) Third (2756800 -3.98) Stop 2758415 First (2757006 5.05) Second (2757102 -2.49) Third (2757072 -3.34) Stop 2759194 First (2758568 3.96) Second (2758664 -2.18) Third (2758709 -3.69) Stop 2765012 First (2763939 5.98) Second (2764101 -1.84) Third (2764242 -3.65) Stop 2765376 First (2765005 3.44) Second (2765056 1.68) Third (2765080 -2.32) Stop 2766594 First (2765731 6.01) Second (2765986 -0.72) Third (2765728 -1.48) Stop 2767507 First (2766686 4.67) Second (2766767 -7.66) Third (2766770 -7.82) Stop 2768425 First (2767724 6.34) Second (2767805 -2.17) Third (2767880 -3.19) Stop 2768702 First (2768310 5.28) Second (2768466 0.01) Third (2768331 -6.61) Stop 2769145 First (2768702 -0.28) Second (2768453 -1.25) Third (2768834 -14.97) Stop 2769636 First (2769169 8.75) Second (2769211 1.59) Third (2769310 0.42) Stop 2773042 First (2771339 2.7) Second (2771510 -4.57) Third (2771405 -4.88)

Stop 2774398 First (2773940 4.38) Second (2774171 -2.62) Third (2773994 -5.23) Stop 2774889 First (2774410 6.53) Second (2774407 5.22) Third (2774563 -1.56) Stop 2775453 First (2775136 5.42) Second (2775196 3.89) Third (2775283 -3.23) Stop 2775803 First (2775474 2.46) Second (2775543 -4.14) Third (2775411 -4.76) Stop 2783372 First (2783346 -5.32) Second (2783241 -6.03) Third (2783259 -6.14) Stop 2784749 First (2784417 5.45) Second (2784468 -6.5) Third (2784687 -12.55) Stop 2785262 First (2784768 2.25) Second (2784927 -7.29) Third (2785116 -8.02) Stop 2785455 First (2785267 -0.94) Second (2785276 -3.59) Third (2785294 -4.05) Stop 2786259 First (2785468 0.77) Second (2785627 -3.81) Third (2785663 -4.77) Stop 2786670 First (2786398 -1.29) Second (2786506 -2.54) Third (2786482 -8.86) Stop 2787983 First (2787006 4.45) Second (2786901 4.16) Third (2786910 -5.26) Stop 2789271 First (2788003 3.59) Second (2788015 -1.25) Third (2787937 -1.62) Stop 2790742 First (2789294 5.57) Second (2789426 -0.99) Third (2789417 -2.34) Stop 2792036 First (2790756 5.11) Second (2790777 3.32) Third (2790750 0.92) Stop 2793674 First (2792274 4.38) Second (2792211 -1.55) Third (2792451 -4.39) Stop 2794357 First (2793695 7.05) Second (2793779 2.21) Third (2793677 1.17) Stop 2795531 First (2795232 3.26) Second (2795292 0.43) Third (2795325 -1.32) Stop 2796065 First (2795541 9.33) Second (2795547 2.63) Third (2795841 -7.76) Stop 2797634 First (2797185 9.0) Second (2797290 -1.54) Third (2797263 -3.56) Stop 2798496 First (2798167 7.97) Second (2798347 -0.6) Third (2798155 -0.61) Stop 2798989 First (2798744 4.83) Second (2798831 1.86) Third (2798894 -2.93) Stop 2799396 First (2799061 -1.68) Second (2798986 -2.87) Third (2799205 -7.46) Stop 2801513 First (2799408 4.22) Second (2799369 4.17) Third (2799432 -1.48) Stop 2802482 First (2801523 8.66) Second (2801586 -1.7) Third (2801691 -3.18) Stop 2804038 First (2802566 -1.74) Second (2802701 -2.07) Third (2802587 -2.29) Stop 2805095 First (2804031 13.16) Second (2804403 -4.74) Third (2804409 -9.11) Stop 2806145 First (2805153 6.46) Second (2805111 -6.0) Third (2805429 -7.39) Stop 2806603 First (2806337 3.82) Second (2806382 -0.6) Third (2806550 -5.51) Stop 2808375 First (2807638 3.49) Second (2807863 -1.8) Third (2807683 -2.32) Stop 2808700 First (2808365 5.19) Second (2808404 -1.1) Third (2808488 -1.41) Stop 2809321 First (2808791 6.99) Second (2808821 1.93) Third (2808929 1.07) Stop 2810620 First (2809448 7.75) Second (2809436 1.83) Third (2809640 -0.06) Stop 2812175 First (2810637 4.48) Second (2810634 0.08) Third (2810679 -1.43) Stop 2824418 First (2823855 8.89) Second (2823918 0.96) Third (2823930 0.48) Stop 2825374 First (2824415 7.69) Second (2824871 -8.75) Third (2824877 -9.25) Stop 2825756 First (2825385 7.29) Second (2825454 -1.55) Third (2825688 -6.52) Stop 2826539 First (2825760 12.34) Second (2825919 -1.25) Third (2825883 -3.19) Stop 2827003 First (2826644 9.26) Second (2826767 -2.76) Third (2826854 -5.27) Stop 2827843 First (2827070 3.69) Second (2827142 -3.85) Third (2827241 -4.8) Stop 2828801 First (2827836 6.44) Second (2827875 2.68) Third (2827971 -2.45) Stop 2831938 First (2830499 5.66) Second (2830508 -1.66) Third (2830553 -3.07) Stop 2833068 First (2831935 9.97) Second (2831950 0.99) Third (2832046 -5.03) Stop 2839004 First (2837547 7.16) Second (2837802 -1.14) Third (2837631 -2.98) Stop 2840437 First (2839013 8.83) Second (2839007 3.15) Third (2839001 1.57) Stop 2849020 First (2848670 9.81) Second (2848658 2.45) Third (2848706 -0.14) Stop 2849896 First (2849024 6.67) Second (2849135 -3.65) Third (2849399 -4.79) Stop 2850159 First (2849887 4.48) Second (2849860 1.92) Third (2850106 -6.85) Stop 2851280 First (2850159 9.49) Second (2850198 1.32) Third (2850276 -1.78) Stop 2852287 First (2851277 3.85) Second (2851346 -0.19) Third (2851319 -1.89) Stop 2854439 First (2852361 5.45) Second (2852400 -1.88) Third (2852424 -2.06) Stop 2857677 First (2855116 4.25) Second (2855317 0.8) Third (2855155 -3.47) Stop 2858439 First (2857783 5.25) Second (2858023 -4.16) Third (2858059 -8.77) Stop 2860361 First (2859453 7.61) Second (2859507 3.58) Third (2859501 2.68)

Stop 2861524 First (2860358 7.46) Second (2860472 1.85) Third (2860751 -5.46) Stop 2862254 First (2861616 5.28) Second (2861658 1.68) Third (2861646 -1.65) Stop 2863035 First (2862259 9.54) Second (2862289 0.75) Third (2862286 0.32) Stop 2864488 First (2863124 5.03) Second (2863283 -0.12) Third (2863169 -2.18) Stop 2875641 First (2874604 7.51) Second (2874766 -0.16) Third (2874745 -0.43) Stop 2876121 First (2875894 -0.91) Second (2876005 -2.49) Third (2876083 -10.93) Stop 2890602 First (2890240 3.08) Second (2890237 2.53) Third (2890153 -1.11) Stop 2891951 First (2890680 3.82) Second (2890770 -1.57) Third (2890650 -4.94) Stop 2892202 First (2891942 4.51) Second (2891906 -6.62) Third (2892029 -11.07) Stop 2892794 First (2892219 10.49) Second (2892252 -6.14) Third (2892630 -7.09) Stop 2899891 First (2898614 4.78) Second (2898764 -0.94) Third (2898887 -4.25) Stop 2901396 First (2899918 7.04) Second (2900029 0.75) Third (2899975 0.01) Stop 2902327 Two predictions First (2902031 1.56) Second (2902034 -0.22) Stop 2902451 First (2902311 -1.64) Second (2902317 -5.05) Third (2902269 -5.47) Stop 2904605 First (2903733 2.62) Second (2903664 2.12) Third (2903688 1.81) Stop 2904681 First (2904667 -4.37) Second (2904580 -4.38) Third (2904415 -5.13) Stop 2905849 First (2904620 1.33) Second (2904854 -10.25) Third (2905139 -18.12) Stop 2915835 First (2913079 4.1) Second (2913169 -1.32) Third (2913109 -2.81) Stop 2924218 First (2923370 1.02) Second (2923700 -6.35) Third (2923754 -7.56) Stop 2925694 First (2924330 5.38) Second (2924390 1.71) Third (2924360 -1.81) Stop 2927540 First (2926251 8.98) Second (2926320 1.24) Third (2926416 -2.23) Stop 2928965 First (2927598 -0.91) Second (2927664 -2.74) Third (2927799 -3.58) Stop 2929832 First (2929077 5.66) Second (2928987 0.61) Third (2929293 -4.41) Stop 2933573 First (2932257 6.7) Second (2932509 -1.08) Third (2932599 -8.43) Stop 2935381 First (2933606 8.19) Second (2933696 1.34) Third (2933663 -0.63) Stop 2936908 First (2935490 7.12) Second (2935460 5.35) Third (2935610 -6.22) Stop 2937332 First (2936910 4.73) Second (2936967 0.47) Third (2937033 -1.73) Stop 2938121 First (2937390 7.02) Second (2937381 -2.95) Third (2937672 -6.98) Stop 2941200 Two predictions First (2940907 -2.37) Second (2941084 -8.6) Stop 2942564 First (2941359 7.69) Second (2941323 0.1) Third (2941572 -4.73) Stop 2943007 First (2942564 0.76) Second (2942774 -1.91) Third (2942792 -4.38) Stop 2948595 First (2947264 -0.57) Second (2947198 -0.64) Third (2947288 -1.27) Stop 2968373 First (2967684 4.66) Second (2967732 -2.74) Third (2967840 -4.09) Stop 2969155 First (2968442 7.27) Second (2968616 2.68) Third (2968610 -1.08) Stop 2969511 First (2969293 2.8) Second (2969368 -4.24) Third (2969467 -4.33) Stop 2970659 First (2969619 3.58) Second (2969679 -0.25) Third (2969772 -7.87) Stop 2975652 First (2974621 8.1) Second (2974738 -1.63) Third (2974726 -5.11) Stop 2977978 First (2977043 3.05) Second (2977088 -2.57) Third (2977190 -3.49) Stop 2985098 First (2983869 1.01) Second (2983980 -1.45) Third (2984040 -6.68) Stop 2986190 First (2985558 7.9) Second (2985525 -2.92) Third (2985606 -3.24) Stop 2987333 First (2986713 0.42) Second (2986524 -1.04) Third (2986719 -4.83) Stop 2987808 First (2987326 -0.06) Second (2987314 -0.98) Third (2987530 -4.91) Stop 2989022 First (2988576 -0.86) Second (2988687 -3.19) Third (2988810 -6.77) Stop 2989781 First (2989290 -0.4) Second (2989674 -8.32) Third (2989257 -9.1) Stop 2991492 First (2990116 2.89) Second (2990278 -5.9) Third (2990587 -10.84) Stop 2991878 First (2991660 4.74) Second (2991630 -1.76) Third (2991807 -5.38) Stop 2992437 First (2992063 -0.78) Second (2991961 -2.25) Third (2992201 -3.95) Stop 3000625 First (2998328 8.75) Second (2998367 2.28) Third (2998427 -1.99) Stop 3001514 First (3000636 7.92) Second (3001107 -11.4) Third (3001197 -14.56) Stop 3001990 First (3001511 8.76) Second (3001556 -1.42) Third (3001646 -1.68) Stop 3005447 First (3004287 4.81) Second (3004284 3.6) Third (3004356 -1.73) Stop 3006727 First (3005531 7.13) Second (3005762 -4.31) Third (3005546 -5.26) Stop 3007996 First (3006785 7.72) Second (3006845 2.15) Third (3006929 -1.35)

Stop 3009434 First (3008049 4.23) Second (3008037 3.78) Third (3008139 -3.86) Stop 3010414 First (3009482 8.16) Second (3009545 -1.32) Third (3009641 -2.36) Stop 3013759 First (3013181 3.71) Second (3013229 2.73) Third (3013247 2.01) Stop 3017179 First (3014093 9.23) Second (3014081 9.16) Third (3014120 2.4) Stop 3018510 First (3017182 5.62) Second (3017116 3.17) Third (3017185 1.8) Stop 3019340 First (3018561 8.35) Second (3018765 -2.36) Third (3018903 -8.91) Stop 3022207 First (3019337 8.6) Second (3019400 -1.54) Third (3019421 -1.95) Stop 3023772 First (3022372 5.31) Second (3022315 -4.38) Third (3022723 -7.22) Stop 3025106 First (3023790 4.45) Second (3023787 0.82) Third (3023925 -3.03) Stop 3025711 First (3025142 8.2) Second (3025274 -3.33) Third (3025406 -3.72) Stop 3026508 First (3025678 0.74) Second (3025783 -0.3) Third (3025714 -2.97) Stop 3030835 First (3029387 5.9) Second (3029318 -3.0) Third (3029258 -3.84) Stop 3031633 First (3031085 5.81) Second (3031109 -0.06) Third (3031322 -7.4) Stop 3033209 First (3031794 -1.52) Second (3031881 -1.99) Third (3032046 -2.36) Stop 3038396 First (3037875 3.84) Second (3037881 0.8) Third (3038016 -0.85) Stop 3040313 First (3039333 6.61) Second (3039453 1.25) Third (3039537 0.73) Stop 3043121 First (3041682 2.85) Second (3041688 2.57) Third (3041664 -3.75) Stop 3053961 First (3053632 2.22) Second (3053710 -3.35) Third (3053884 -6.6) Stop 3054809 First (3054063 -1.4) Second (3054261 -4.04) Third (3054309 -4.4) Stop 3058666 First (3057773 4.33) Second (3057905 0.13) Third (3057707 -0.71) Stop 3061014 First (3058870 7.78) Second (3058879 -0.81) Third (3058849 -4.8) Stop 3062002 First (3061007 3.61) Second (3061148 -1.38) Third (3061328 -2.61) Stop 3062798 First (3062013 6.46) Second (3062121 -2.6) Third (3061995 -4.61) Stop 3064300 First (3062822 9.59) Second (3062843 2.64) Third (3062885 -4.12) Stop 3080690 First (3079932 -0.44) Second (3079806 -3.4) Third (3079713 -3.49) Stop 3081759 First (3080785 -0.24) Second (3080743 -1.08) Third (3080860 -2.24) Stop 3084421 First (3084206 3.1) Second (3084227 0.38) Third (3084407 -5.69) Stop 3085879 First (3084725 5.98) Second (3084872 -2.28) Third (3084713 -2.65) Stop 3087697 First (3086303 7.81) Second (3086291 -2.15) Third (3086486 -2.65) Stop 3088271 First (3087816 0.5) Second (3087774 -3.98) Third (3088080 -6.79) Stop 3089073 First (3088366 6.19) Second (3088363 0.43) Third (3088378 -3.01) Stop 3089884 First (3089153 5.73) Second (3089252 -0.66) Third (3089270 -4.33) Stop 3090847 First (3089897 8.4) Second (3089918 -0.27) Third (3089966 -2.49) Stop 3091519 First (3090884 1.8) Second (3090929 -2.03) Third (3091172 -2.44) Stop 3091935 First (3091519 1.66) Second (3091393 -5.13) Third (3091711 -8.0) Stop 3093821 First (3093117 3.74) Second (3093393 -9.5) Third (3093738 -12.63) Stop 3094405 First (3093839 5.06) Second (3093887 1.34) Third (3093848 -1.84) Stop 3094692 First (3094402 -0.23) Second (3094555 -6.47) Third (3094390 -7.47) Stop 3095293 First (3094700 5.05) Second (3094784 -3.08) Third (3094739 -3.08) Stop 3096422 First (3095286 4.29) Second (3095385 -0.62) Third (3095436 -2.57) Stop 3102083 First (3101031 -1.66) Second (3101025 -3.01) Third (3101196 -4.2) Stop 3102386 First (3102111 8.53) Second (3102348 -1.76) Third (3102318 -1.98) Stop 3103530 First (3102571 -0.83) Second (3102451 -1.56) Third (3102646 -2.01) Stop 3104988 First (3103732 7.35) Second (3103684 -0.21) Third (3103816 -3.84) Stop 3108277 First (3107570 2.62) Second (3107669 -5.05) Third (3107939 -5.61) Stop 3127051 First (3126287 3.45) Second (3126227 -2.57) Third (3126236 -3.98) Stop 3129209 First (3128229 5.44) Second (3128193 1.56) Third (3128301 -1.46) Stop 3132838 First (3132146 7.43) Second (3132209 -0.91) Third (3132317 -4.81) Stop 3137608 First (3136742 2.36) Second (3136922 -3.9) Third (3136694 -5.95) Stop 3146952 First (3145912 6.93) Second (3145948 -3.57) Third (3146215 -4.37) Stop 3148561 First (3147677 6.87) Second (3147764 -0.45) Third (3147902 -4.18) Stop 3148982 Two predictions First (3148737 0.59) Second (3148890 -0.73) Stop 3151438 First (3150251 1.05) Second (3150173 -2.54) Third (3150116 -6.09)

Stop 3152237 First (3151578 5.3) Second (3151773 -0.77) Third (3151671 -3.9) Stop 3154532 First (3153369 7.34) Second (3153537 -2.23) Third (3153345 -4.85) Stop 3155464 First (3154637 10.55) Second (3154679 3.19) Third (3154754 -3.04) Stop 3156593 First (3155664 4.77) Second (3155937 -6.95) Third (3156048 -12.37) Stop 3156901 First (3156644 6.74) Second (3156782 -0.38) Third (3156740 -1.67) Stop 3168503 First (3167844 5.63) Second (3167910 1.89) Third (3167871 -2.72) Stop 3169849 First (3168500 5.07) Second (3168704 -1.77) Third (3168566 -3.4) Stop 3171127 First (3170546 8.67) Second (3170903 -2.54) Third (3170759 -3.05) Stop 3171472 First (3171158 8.89) Second (3171320 0.02) Third (3171341 -1.26) Stop 3177612 First (3176131 5.02) Second (3176206 0.55) Third (3176092 -0.74) Stop 3177872 One prediction (3177612 -0.58) Stop 3178431 First (3177760 3.35) Second (3177727 -2.65) Third (3178126 -4.41) Stop 3179597 First (3178437 3.26) Second (3178692 -3.4) Third (3178632 -3.6) Stop 3181339 First (3180566 6.85) Second (3180524 -2.23) Third (3180695 -2.36) Stop 3183146 First (3182856 4.96) Second (3182796 2.31) Third (3182907 1.33) Stop 3183981 First (3183430 6.28) Second (3183472 -1.91) Third (3183670 -3.12) Stop 3184568 First (3184203 5.23) Second (3184290 -0.94) Third (3184158 -1.81) Stop 3185431 First (3184526 1.21) Second (3184640 -1.52) Third (3184607 -3.68) Stop 3187881 First (3185416 2.46) Second (3185791 -5.97) Third (3185659 -11.73) Stop 3188646 First (3187897 5.51) Second (3187888 2.05) Third (3187951 1.37) Stop 3189712 First (3188648 3.35) Second (3188711 -2.2) Third (3188681 -2.96) Stop 3190853 First (3190224 6.39) Second (3190323 -3.32) Third (3190281 -6.42) Stop 3192541 First (3190880 6.52) Second (3191039 -1.36) Third (3190913 -1.91) Stop 3199468 First (3198848 -0.27) Second (3198986 -4.2) Third (3199013 -9.1) Stop 3200770 First (3199532 1.48) Second (3199571 0.3) Third (3199607 -2.08) Stop 3202952 First (3202335 4.76) Second (3202356 -1.83) Third (3202470 -2.89) Stop 3205015 First (3204107 3.23) Second (3204104 0.13) Third (3204050 -1.23) Stop 3205617 First (3205012 5.16) Second (3205324 -4.35) Third (3205099 -5.49) Stop 3207128 First (3205665 1.15) Second (3205833 -9.09) Third (3205839 -9.15) Stop 3208637 Two predictions First (3208422 3.77) Second (3208578 -5.09) Stop 3210493 First (3208748 2.83) Second (3209021 -4.19) Third (3208826 -5.7) Stop 3212529 First (3210688 4.91) Second (3210826 -0.78) Third (3210853 -1.23) Stop 3215043 First (3214420 10.45) Second (3214615 -6.64) Third (3214849 -8.65) Stop 3218514 First (3217024 1.16) Second (3217135 0.32) Third (3217039 -1.22) Stop 3220090 First (3219107 5.3) Second (3219188 -6.15) Third (3219194 -6.27) Stop 3223366 First (3220274 4.11) Second (3220121 -4.47) Third (3220238 -5.64) Stop 3223812 First (3223363 5.82) Second (3223507 -5.15) Third (3223627 -5.83) Stop 3225308 First (3223875 4.82) Second (3224238 -5.75) Third (3223998 -6.93) Stop 3226512 First (3225442 4.67) Second (3225619 -0.2) Third (3225685 -4.29) Stop 3228880 First (3226529 7.88) Second (3226796 -2.98) Third (3226619 -3.52) Stop 3231324 First (3229306 6.45) Second (3229381 1.87) Third (3229372 -2.39) Stop 3234104 First (3233601 3.2) Second (3233565 -0.81) Third (3233688 -4.16) Stop 3234873 First (3234181 5.02) Second (3234298 -4.89) Third (3234367 -5.81) Stop 3235938 First (3234952 5.47) Second (3234934 0.13) Third (3235123 -2.1) Stop 3237187 First (3236222 8.27) Second (3236327 1.67) Third (3236333 -0.58) Stop 3238828 First (3237584 7.67) Second (3237728 -3.01) Third (3237782 -4.99) Stop 3244162 First (3242864 4.47) Second (3242852 2.26) Third (3242744 1.88) Stop 3245068 First (3244292 4.66) Second (3244277 0.82) Third (3244373 -1.05) Stop 3246075 First (3245413 6.42) Second (3245422 0.94) Third (3245608 -2.15) Stop 3246462 First (3246079 8.47) Second (3246094 3.65) Third (3246223 1.37) Stop 3246977 First (3246609 5.52) Second (3246594 4.38) Third (3246849 -8.68) Stop 3247320 First (3247015 6.9) Second (3247084 -1.33) Third (3247120 -4.81) Stop 3247727 First (3247323 -1.75) Second (3247494 -2.31) Third (3247254 -4.21)

Stop 3248016 First (3247717 7.01) Second (3247894 -5.8) Third (3247849 -6.44) Stop 3248594 First (3248202 2.88) Second (3248199 -0.44) Third (3248112 -0.5) Stop 3249650 First (3248664 8.09) Second (3248643 1.39) Third (3248649 -6.25) Stop 3250309 First (3249944 7.01) Second (3250070 2.04) Third (3250016 1.86) Stop 3250907 First (3250551 7.73) Second (3250623 2.11) Third (3250563 -4.5) Stop 3252660 First (3251959 6.39) Second (3252010 -6.34) Third (3252157 -6.75) Stop 3252847 First (3252683 6.74) Second (3252680 1.99) Third (3252695 0.84) Stop 3265239 First (3265021 -0.64) Second (3264895 -2.35) Third (3264883 -2.39) Stop 3266034 First (3265495 3.56) Second (3265465 -2.05) Third (3265543 -3.45) Stop 3267243 First (3266056 5.41) Second (3266113 -0.16) Third (3266200 -5.54) Stop 3267468 First (3267346 1.0) Second (3267361 -1.57) Third (3267337 -3.55) Stop 3274494 First (3272923 5.41) Second (3273190 -3.13) Third (3273091 -4.32) Stop 3274978 First (3274838 6.07) Second (3274643 5.89) Third (3274802 1.76) Stop 3275442 First (3274978 0.67) Second (3275140 -4.6) Third (3275308 -6.15) Stop 3277835 First (3276555 3.74) Second (3276573 -0.56) Third (3276576 -2.36) Stop 3278331 First (3277858 3.86) Second (3277948 -1.59) Third (3277894 -4.91) Stop 3278743 First (3278342 6.19) Second (3278357 -2.01) Third (3278426 -2.99) Stop 3279266 First (3278781 -2.2) Second (3278958 -2.82) Third (3278811 -4.41) Stop 3280771 First (3279617 7.54) Second (3279902 -9.49) Third (3279983 -9.83) Stop 3281644 First (3280784 7.54) Second (3280904 -1.8) Third (3280841 -2.98) Stop 3282287 First (3281811 7.41) Second (3281874 -2.93) Third (3281958 -4.49) Stop 3283129 First (3282326 7.59) Second (3282566 -2.52) Third (3282554 -7.0) Stop 3283910 First (3283119 3.31) Second (3283050 2.34) Third (3283038 1.08) Stop 3284666 First (3283965 3.19) Second (3283911 -0.34) Third (3284193 -3.43) Stop 3285651 First (3285067 5.01) Second (3285304 -5.97) Third (3285481 -8.16) Stop 3286426 First (3285731 2.64) Second (3285752 -4.51) Third (3285767 -4.72) Stop 3288971 First (3286380 4.91) Second (3286455 2.3) Third (3286386 -0.99) Stop 3290073 First (3288982 1.0) Second (3288811 0.1) Third (3288784 -3.15) Stop 3293077 First (3291041 5.37) Second (3291011 -2.45) Third (3291155 -2.5) Stop 3293430 First (3293035 7.12) Second (3293194 0.2) Third (3293350 -3.51) Stop 3294040 First (3293450 4.47) Second (3293543 -4.88) Third (3293786 -5.38) Stop 3294625 First (3294050 10.88) Second (3294137 -1.31) Third (3294284 -5.0) Stop 3297133 First (3296615 7.21) Second (3296768 -0.6) Third (3296573 -1.23) Stop 3297909 First (3297751 1.12) Second (3297607 -2.4) Third (3297628 -4.25) Stop 3300121 First (3299126 8.07) Second (3299264 -1.79) Third (3299099 -2.99) Stop 3301008 First (3300130 5.38) Second (3300112 0.94) Third (3300322 -2.16) Stop 3302096 First (3301089 4.67) Second (3301242 -3.35) Third (3301332 -5.81) Stop 3314981 First (3313512 -1.19) Second (3313536 -1.8) Third (3313587 -8.17) Stop 3317621 First (3316278 6.36) Second (3316368 -5.03) Third (3316458 -6.25) Stop 3325724 First (3325431 4.45) Second (3325629 -3.55) Third (3325575 -4.86) Stop 3328037 First (3326604 2.03) Second (3326958 -3.05) Third (3326907 -3.24) Stop 3331299 First (3330826 -1.38) Second (3330730 -2.67) Third (3330754 -2.92) Stop 3332322 First (3331351 -0.93) Second (3331390 -1.0) Third (3331624 -3.16) Stop 3332828 First (3332550 10.35) Second (3332619 4.47) Third (3332700 0.7) Stop 3334597 First (3334256 -4.12) Second (3334364 -9.44) Third (3334385 -12.23) Stop 3335520 First (3334927 -2.91) Second (3334945 -4.08) Third (3334885 -6.53) Stop 3338893 First (3337916 6.8) Second (3338039 -1.27) Third (3337955 -4.28) Stop 3339893 First (3338907 3.88) Second (3339069 -1.2) Third (3339105 -1.68) Stop 3340480 First (3339914 8.12) Second (3340043 0.52) Third (3340196 -5.32) Stop 3341052 First (3340477 6.97) Second (3340507 2.51) Third (3340546 0.2) Stop 3341578 First (3341021 5.12) Second (3341000 -0.25) Third (3341057 -2.0) Stop 3342310 First (3341585 6.4) Second (3341636 -0.52) Third (3341741 -2.34) Stop 3343791 First (3342358 3.66) Second (3342400 -0.49) Third (3342370 -2.09)

Stop 3344101 First (3343814 4.67) Second (3344021 -3.91) Third (3343730 -6.0) Stop 3344710 First (3344219 5.67) Second (3344396 2.2) Third (3344195 -3.98) Stop 3345610 First (3344756 9.19) Second (3344825 2.28) Third (3344840 -0.91) Stop 3345879 First (3345607 5.1) Second (3345649 0.6) Third (3345685 0.17) Stop 3346725 First (3346093 4.49) Second (3346036 1.29) Third (3346471 -8.82) Stop 3356820 First (3352267 5.45) Second (3352360 5.41) Third (3352363 1.3) Stop 3358251 First (3356833 9.6) Second (3357247 -7.92) Third (3357229 -8.2) Stop 3359575 First (3358811 6.94) Second (3358880 -3.17) Third (3359180 -8.75) Stop 3360421 First (3359747 8.23) Second (3359789 1.6) Third (3359810 0.72) Stop 3362823 First (3360442 6.29) Second (3360424 -2.54) Third (3360607 -9.93) Stop 3363299 First (3362820 6.36) Second (3362862 0.94) Third (3362814 -0.01) Stop 3365277 First (3364561 7.64) Second (3364606 -1.55) Third (3364774 -3.76) Stop 3366589 First (3365462 6.52) Second (3365573 -1.85) Third (3365777 -7.25) Stop 3371614 First (3371393 -1.34) Second (3371327 -3.61) Third (3371366 -4.56) Stop 3373871 First (3372504 6.01) Second (3372543 -0.46) Third (3372612 -1.39) Stop 3378224 First (3377826 5.74) Second (3377820 0.89) Third (3378021 -2.84) Stop 3379745 First (3378378 4.48) Second (3378336 -2.22) Third (3378522 -2.69) Stop 3380902 First (3379835 0.21) Second (3380087 -3.68) Third (3379901 -4.46) Stop 3382808 First (3382338 5.51) Second (3382482 -3.26) Third (3382524 -4.98) Stop 3383436 First (3383173 6.64) Second (3383122 1.8) Third (3383335 -4.11) Stop 3388084 First (3387155 5.9) Second (3387173 3.95) Third (3387368 -1.02) Stop 3402095 First (3401121 7.51) Second (3401295 -2.34) Third (3401430 -6.08) Stop 3403543 First (3403073 3.59) Second (3403202 -2.92) Third (3403226 -5.5) Stop 3404903 First (3403554 2.96) Second (3403515 0.18) Third (3403596 -2.61) Stop 3405254 First (3405012 6.94) Second (3405072 -0.79) Third (3405153 -5.47) Stop 3406695 First (3405244 6.9) Second (3405238 -2.4) Third (3405484 -4.1) Stop 3407588 First (3406707 3.24) Second (3406773 -1.86) Third (3407004 -1.87) Stop 3408882 First (3408022 0.2) Second (3408010 0.11) Third (3407965 -0.07) Stop 3409204 First (3408908 3.93) Second (3409106 -2.1) Third (3409196 -6.03) Stop 3410174 First (3409290 6.2) Second (3409284 -0.54) Third (3409533 -3.52) Stop 3410437 First (3410258 3.19) Second (3410432 -1.09) Third (3410324 -1.18) Stop 3412658 First (3411501 8.0) Second (3411756 -4.99) Third (3411966 -13.5) Stop 3415774 First (3412670 6.63) Second (3412874 -1.61) Third (3412850 -2.64) Stop 3416248 First (3416027 6.95) Second (3416045 0.06) Third (3416144 -3.98) Stop 3417703 First (3416786 -0.38) Second (3416975 -2.35) Third (3417026 -4.18) Stop 3418859 First (3417771 5.8) Second (3417753 -1.58) Third (3418068 -12.07) Stop 3420064 First (3418961 8.19) Second (3418958 3.81) Third (3419021 -2.11) Stop 3420830 First (3420072 4.86) Second (3420105 -3.42) Third (3420174 -4.95) Stop 3427427 First (3426873 0.45) Second (3426672 -2.26) Third (3426729 -2.49) Stop 3431836 First (3431327 7.19) Second (3431336 0.66) Third (3431396 -2.74) Stop 3432798 First (3431851 3.69) Second (3431992 -2.19) Third (3432106 -4.05) Stop 3434133 First (3432844 3.86) Second (3432871 0.53) Third (3432823 -1.28) Stop 3435531 First (3434155 4.49) Second (3434392 -4.13) Third (3434296 -6.04) Stop 3436071 First (3435661 9.28) Second (3435709 -0.68) Third (3435715 -1.72) Stop 3442884 First (3442300 -5.56) Second (3442258 -6.86) Third (3442504 -6.9) Stop 3443558 First (3442935 0.87) Second (3443148 -3.74) Third (3442941 -4.83) Stop 3444200 Two predictions First (3443643 4.19) Second (3444171 -21.66) Stop 3446277 First (3445933 -3.17) Second (3446065 -8.14) Third (3446113 -9.62) Stop 3449073 First (3448018 3.34) Second (3448066 1.02) Third (3448081 0.46) Stop 3450554 First (3449853 - 3.1) Second (3450162 - 3.46) Third (3450144 - 7.43) Stop 3454030 First (3453215 -1.77) Second (3453278 -6.74) Third (3453317 -6.79) Stop 3455966 First (3454002 4.96) Second (3454014 4.42) Third (3454143 -1.62) Stop 3457457 First (3455976 7.25) Second (3456252 -3.34) Third (3456123 -5.4)

Stop 3458650 First (3457454 5.68) Second (3457496 0.36) Third (3457475 -3.91) Stop 3459097 First (3458660 8.12) Second (3458705 2.91) Third (3458711 -0.37) Stop 3459614 First (3459105 2.78) Second (3459141 -0.34) Third (3459147 -1.04) Stop 3459988 First (3459611 1.88) Second (3459572 0.71) Third (3459698 -0.3) Stop 3460568 First (3459981 2.8) Second (3460020 0.6) Third (3460008 -2.17) Stop 3461544 First (3460561 6.33) Second (3460603 -2.9) Third (3460639 -3.9) Stop 3462722 First (3461559 4.42) Second (3461619 1.51) Third (3461574 -0.7) Stop 3463180 First (3462719 5.55) Second (3462890 -1.11) Third (3462695 -3.3) Stop 3463857 First (3463180 7.38) Second (3463186 0.73) Third (3463342 -7.27) Stop 3475495 First (3475277 7.38) Second (3475292 3.04) Third (3475388 -1.65) Stop 3480839 First (3478926 0.75) Second (3479022 -4.55) Third (3479391 -6.06) Stop 3481861 First (3480839 4.21) Second (3480899 -0.23) Third (3480932 -5.89) Stop 3482073 First (3481855 6.92) Second (3481858 3.32) Third (3481915 -1.63) Stop 3482996 First (3482127 7.71) Second (3482286 -0.57) Third (3482280 -5.22) Stop 3484389 First (3483757 4.56) Second (3483934 4.14) Third (3483760 1.84) Stop 3486530 First (3484527 -2.21) Second (3484428 -2.86) Third (3484440 -3.63) Stop 3491386 First (3490205 0.37) Second (3490295 -2.3) Third (3490337 -8.53) Stop 3494191 First (3491648 6.69) Second (3491684 -1.43) Third (3491837 -5.69) Stop 3494514 First (3494188 8.12) Second (3494440 -6.49) Third (3494344 -6.72) Stop 3495446 First (3494640 7.35) Second (3494736 0.02) Third (3494751 -2.52) Stop 3496838 First (3495465 7.21) Second (3495474 0.73) Third (3495633 -2.13) Stop 3497252 One prediction (3497085 8.0) Stop 3498884 First (3497547 4.6) Second (3497496 2.11) Third (3497712 -1.41) Stop 3499927 First (3498905 6.57) Second (3498908 1.91) Third (3498953 -0.5) Stop 3500339 First (3499977 4.38) Second (3499890 0.58) Third (3499989 -1.06) Stop 3500808 First (3500404 2.17) Second (3500653 -1.84) Third (3500671 -4.14) Stop 3501590 First (3500805 8.41) Second (3500991 -0.87) Third (3500943 -1.02) Stop 3502421 First (3501690 4.33) Second (3501624 -6.45) Third (3501867 -8.39) Stop 3523061 First (3520509 4.21) Second (3520485 1.89) Third (3520530 0.22) Stop 3526242 First (3524107 5.72) Second (3524176 1.48) Third (3524119 1.13) Stop 3526975 First (3526307 4.66) Second (3526262 -1.83) Third (3526457 -1.91) Stop 3527387 First (3526986 7.0) Second (3527091 -1.13) Third (3527073 -2.48) Stop 3528290 First (3527412 3.69) Second (3527406 2.16) Third (3527634 -1.93) Stop 3532078 First (3530456 6.9) Second (3530387 -3.32) Third (3530474 -5.22) Stop 3534926 First (3534450 5.52) Second (3534546 2.76) Third (3534414 -2.89) Stop 3537344 First (3535026 0.75) Second (3535122 0.72) Third (3535023 -0.32) Stop 3538026 First (3537799 3.91) Second (3537889 -4.33) Third (3537916 -6.04) Stop 3540364 First (3538043 2.77) Second (3538031 -2.16) Third (3538205 -4.21) Stop 3540600 First (3540412 3.03) Second (3540490 1.97) Third (3540364 1.77) Stop 3541681 First (3540803 4.95) Second (3540926 -2.99) Third (3540992 -7.09) Stop 3543201 First (3542518 6.37) Second (3542470 -2.38) Third (3542497 -4.62) Stop 3543835 First (3543260 5.6) Second (3543344 -3.63) Third (3543404 -4.21) Stop 3545508 First (3544195 5.41) Second (3544315 0.83) Third (3544258 0.47) Stop 3553423 First (3550718 2.66) Second (3550766 -5.2) Third (3551003 -7.54) Stop 3557498 First (3555900 2.0) Second (3555912 -7.78) Third (3556038 -10.92) Stop 3561151 First (3559646 5.16) Second (3559631 1.76) Third (3559667 0.15) Stop 3562771 First (3561788 -1.17) Second (3561797 -3.38) Third (3561740 -4.42) Stop 3573297 First (3572704 6.82) Second (3572746 2.01) Third (3572821 0.07) Stop 3573608 First (3573282 -4.26) Second (3573570 -6.19) Third (3573498 -10.28) Stop 3575383 First (3574844 2.35) Second (3574946 -6.92) Third (3574829 -7.72) Stop 3579257 First (3578769 4.5) Second (3578718 -3.31) Third (3578955 -4.65) Stop 3580672 First (3579494 6.41) Second (3579746 -5.5) Third (3579785 -11.84) Stop 3581085 First (3580672 1.11) Second (3580669 1.09) Third (3580708 -2.62)

Stop 3581389 First (3581114 3.59) Second (3581330 -1.87) Third (3581165 -3.38) Stop 3581811 First (3581308 0.51) Second (3581566 -1.5) Third (3581434 -4.56) Stop 3582674 Two predictions First (3582390 0.74) Second (3582666 -7.47) Stop 3585014 First (3584574 9.71) Second (3584700 -0.65) Third (3584955 -5.55) Stop 3595998 First (3595615 3.78) Second (3595816 -6.08) Third (3595870 -7.11) Stop 3602620 First (3602024 2.63) Second (3602261 -4.65) Third (3602270 -4.86) Stop 3602879 First (3602487 3.61) Second (3602610 3.01) Third (3602607 -0.58) Stop 3604008 First (3603382 7.36) Second (3603427 -3.84) Third (3603520 -4.63) Stop 3606280 First (3604082 6.75) Second (3604250 -0.99) Third (3604289 -4.44) Stop 3607513 First (3606848 7.11) Second (3606959 -6.69) Third (3607121 -6.84) Stop 3608143 First (3607586 6.03) Second (3607544 2.47) Third (3607799 -1.9) Stop 3610545 First (3609496 2.21) Second (3609526 -3.2) Third (3609415 -5.04) Stop 3611187 First (3610600 -1.43) Second (3610717 -4.74) Third (3610948 -4.94) Stop 3612872 First (3611298 6.28) Second (3611442 -4.39) Third (3611499 -5.59) Stop 3613816 First (3612872 1.56) Second (3612947 -0.85) Third (3612875 -2.31) Stop 3614646 First (3613813 2.35) Second (3613933 -2.9) Third (3614134 -7.19) Stop 3615410 First (3614646 4.78) Second (3614802 -3.05) Third (3614937 -8.86) Stop 3616213 First (3615407 4.02) Second (3615710 -9.95) Third (3615683 -10.11) Stop 3616620 First (3616219 5.38) Second (3616531 -5.76) Third (3616381 -6.94) Stop 3621058 First (3616823 6.82) Second (3616856 2.13) Third (3617114 -8.53) Stop 3621413 First (3621030 7.33) Second (3621045 0.41) Third (3621147 0.08) Stop 3623145 First (3622009 9.89) Second (3622027 2.98) Third (3622024 -1.12) Stop 3633523 First (3632471 0.7) Second (3632414 0.15) Third (3632429 0.05) Stop 3636771 First (3635272 1.91) Second (3635320 -0.17) Third (3635533 -2.89) Stop 3638175 First (3637741 8.79) Second (3637816 1.28) Third (3637912 0.04) Stop 3639961 First (3638492 5.63) Second (3638510 -1.08) Third (3638543 -3.09) Stop 3643857 First (3643015 1.58) Second (3642964 -3.03) Third (3643264 -3.39) Stop 3645281 First (3643929 6.73) Second (3644121 -2.13) Third (3644001 -4.12) Stop 3646511 First (3646158 6.13) Second (3646182 -7.24) Third (3646335 -10.1) Stop 3647854 First (3646565 9.47) Second (3646544 -1.04) Third (3646604 -3.94) Stop 3648292 First (3647867 4.6) Second (3647927 0.35) Third (3648119 -4.59) Stop 3649703 First (3648921 6.58) Second (3649182 -11.63) Third (3649491 -13.88) Stop 3652157 First (3651591 3.58) Second (3651597 -0.19) Third (3651558 -1.26) Stop 3652843 First (3652313 7.37) Second (3652340 4.8) Third (3652355 0.14) Stop 3655197 First (3654625 5.87) Second (3654652 0.75) Third (3654670 -0.29) Stop 3656523 First (3655996 6.92) Second (3655918 -0.23) Third (3656065 -1.71) Stop 3658019 First (3656862 5.41) Second (3656955 0.67) Third (3656910 -3.0) Stop 3661157 First (3658044 8.47) Second (3658125 1.17) Third (3658098 -0.91) Stop 3664394 First (3663756 3.25) Second (3663804 -2.82) Third (3663735 -5.21) Stop 3668871 First (3667222 7.26) Second (3667321 0.97) Third (3667348 0.45) Stop 3670943 First (3670062 2.46) Second (3669972 1.5) Third (3670044 -1.71) Stop 3672005 First (3670992 5.11) Second (3671055 -3.62) Third (3671274 -3.98) Stop 3673738 First (3672416 5.64) Second (3672557 -5.97) Third (3672740 -7.5) Stop 3677978 First (3676983 -2.37) Second (3677049 -4.65) Third (3676830 -4.67) Stop 3695658 First (3694099 3.71) Second (3694153 2.46) Third (3694087 -1.91) Stop 3695846 First (3695658 4.65) Second (3695655 4.33) Third (3695739 -7.58) Stop 3697522 First (3695843 5.22) Second (3696116 -2.98) Third (3695870 -4.21) Stop 3699463 First (3698192 3.8) Second (3698159 0.39) Third (3698303 -3.01) Stop 3703664 First (3703437 3.23) Second (3703506 1.66) Third (3703524 -1.84) Stop 3711284 First (3710721 1.39) Second (3710484 -0.1) Third (3710556 -0.74) Stop 3711721 First (3711281 7.77) Second (3711548 -2.46) Third (3711476 -4.98) Stop 3714835 First (3714176 8.6) Second (3714308 -2.02) Third (3714437 -4.54) Stop 3715913 First (3714939 6.44) Second (3715128 0.43) Third (3714927 -1.73)

Stop 3717397 First (3717107 9.73) Second (3717125 3.88) Third (3717290 -1.15) Stop 3717890 First (3717678 5.99) Second (3717690 -0.12) Third (3717828 -1.5) Stop 3718830 First (3718309 4.24) Second (3718546 -2.95) Third (3718351 -3.58) Stop 3719678 First (3718827 -4.17) Second (3719073 -6.34) Third (3719313 -11.16) Stop 3724511 First (3723516 3.93) Second (3723567 2.1) Third (3723576 -1.13) Stop 3729752 First (3728760 3.23) Second (3728847 -1.26) Third (3728901 -3.74) Stop 3731371 First (3729830 6.2) Second (3729848 -1.04) Third (3729968 -2.14) Stop 3732530 First (3731349 9.67) Second (3731442 1.05) Third (3731373 -1.67) Stop 3733786 First (3732608 6.29) Second (3732941 -10.49) Third (3733070 -13.28) Stop 3737156 First (3735126 6.3) Second (3735330 -3.84) Third (3735249 -9.83) Stop 3738587 First (3737229 -2.79) Second (3737334 -4.44) Third (3737433 -5.41) Stop 3741360 First (3740362 5.43) Second (3740368 2.84) Third (3740455 -3.78) Stop 3741839 First (3741372 10.41) Second (3741777 -6.26) Third (3741411 -6.74) Stop 3742430 First (3741957 6.98) Second (3742128 -1.95) Third (3742161 -4.5) Stop 3743707 First (3742433 8.67) Second (3742526 2.56) Third (3742637 -0.4) Stop 3744710 First (3743724 9.08) Second (3743874 -4.54) Third (3744024 -4.72) Stop 3746210 First (3744714 7.26) Second (3744798 3.18) Third (3744855 0.2) Stop 3746869 First (3746207 10.32) Second (3746456 -2.95) Third (3746345 -3.27) Stop 3747722 First (3746862 2.97) Second (3746772 -0.58) Third (3746829 -2.32) Stop 3748411 First (3747716 10.71) Second (3747866 -1.76) Third (3747740 -5.43) Stop 3750596 First (3749622 1.68) Second (3749763 -5.18) Third (3749802 -8.63) Stop 3763943 First (3759810 8.27) Second (3759843 2.13) Third (3759885 -1.31) Stop 3764806 First (3763964 8.71) Second (3763949 -0.22) Third (3764075 -5.76) Stop 3765549 First (3764947 0.68) Second (3764848 -0.25) Third (3764959 -1.36) Stop 3766265 First (3765909 2.92) Second (3765804 2.85) Third (3765894 -1.84) Stop 3771821 First (3769908 5.42) Second (3769932 -2.67) Third (3770070 -5.49) Stop 3773199 First (3771868 1.51) Second (3771895 0.14) Third (3771733 -0.58) Stop 3773786 First (3773262 2.91) Second (3773199 0.39) Third (3773250 -0.86) Stop 3774654 First (3774292 1.28) Second (3774541 -3.47) Third (3774493 -4.54) Stop 3776681 First (3775026 6.21) Second (3774999 -2.65) Third (3775203 -4.33) Stop 3777457 First (3776681 3.34) Second (3776666 -1.55) Third (3776765 -1.9) Stop 3778644 First (3777454 8.94) Second (3777616 -1.26) Third (3777526 -1.6) Stop 3779315 First (3778842 10.69) Second (3779133 -2.52) Third (3778944 -5.16) Stop 3781752 First (3781300 2.47) Second (3781381 -2.73) Third (3781267 -5.92) Stop 3782096 First (3781773 -1.68) Second (3781776 -3.22) Third (3781884 -7.22) Stop 3784431 First (3782743 -0.56) Second (3782887 -1.91) Third (3782908 -2.77) Stop 3785724 First (3784465 4.93) Second (3784441 3.94) Third (3784477 -3.43) Stop 3786687 First (3785728 3.58) Second (3785863 0.28) Third (3786097 -3.78) Stop 3792546 First (3791614 5.14) Second (3791794 -3.01) Third (3791881 -3.4) Stop 3793602 First (3792556 4.44) Second (3792601 1.57) Third (3792595 1.19) Stop 3794565 First (3793606 8.17) Second (3793636 1.34) Third (3793615 1.32) Stop 3795834 First (3794575 3.6) Second (3794629 -0.26) Third (3794602 -3.9) Stop 3807444 First (3806167 2.26) Second (3806233 -1.43) Third (3806320 -2.42) Stop 3807931 First (3807284 1.5) Second (3807452 1.04) Third (3807347 0.67) Stop 3811578 First (3810358 4.32) Second (3810286 -1.02) Third (3810430 -6.79) Stop 3812014 First (3811559 0.74) Second (3811556 0.27) Third (3811847 -3.67) Stop 3812717 First (3812121 4.86) Second (3812292 -4.44) Third (3812079 -4.86) Stop 3815166 First (3814303 5.8) Second (3814372 3.44) Third (3814315 1.43) Stop 3816211 First (3815387 5.64) Second (3815585 3.67) Third (3815375 2.69) Stop 3817118 First (3816501 5.51) Second (3816636 -0.06) Third (3816579 -0.21) Stop 3819678 First (3819055 1.4) Second (3819247 -3.72) Third (3818998 -6.36) Stop 3820008 Two predictions First (3819733 6.92) Second (3819820 -4.23) Stop 3822135 First (3820027 -1.4) Second (3820225 -3.92) Third (3820396 -6.87)

Stop 3822831 First (3822142 4.08) Second (3822211 -0.95) Third (3822175 -1.58) Stop 3824918 First (3822837 3.89) Second (3822804 -2.87) Third (3823026 -6.54) Stop 3827963 First (3826572 5.65) Second (3826791 -5.85) Third (3826563 -7.05) Stop 3829793 First (3828084 5.5) Second (3828060 -0.7) Third (3828132 -4.62) Stop 3835764 First (3834580 2.29) Second (3834730 -1.51) Third (3834763 -2.79) Stop 3836798 First (3835875 6.29) Second (3835974 3.5) Third (3835959 -3.56) Stop 3838135 First (3837842 4.31) Second (3838019 -0.42) Third (3838070 -1.34) Stop 3843357 First (3841591 5.79) Second (3841648 -1.77) Third (3841747 -6.53) Stop 3852733 First (3851549 0.92) Second (3851543 -1.71) Third (3851573 -1.72) Stop 3854491 First (3854042 6.24) Second (3853937 0.96) Third (3853934 -0.83) Stop 3858803 First (3857910 9.71) Second (3857880 1.46) Third (3857985 -3.14) Stop 3862242 First (3861526 0.29) Second (3861484 -3.83) Third (3861367 -5.26) Stop 3865687 First (3865355 1.98) Second (3865286 0.53) Third (3865427 0.48) Stop 3868068 First (3867004 4.64) Second (3867079 2.46) Third (3867019 0.87) Stop 3873793 First (3873065 4.8) Second (3872960 3.47) Third (3872948 3.46) Stop 3882105 Two predictions First (3881965 4.52) Second (3882028 -2.57) Stop 3882481 First (3882155 3.19) Second (3882122 -0.57) Third (3882368 -5.57) Stop 3882702 First (3882445 6.63) Second (3882592 -3.78) Third (3882577 -4.51) Stop 3884351 First (3882705 4.44) Second (3882756 -1.23) Third (3882738 -4.97) Stop 3885821 First (3884457 4.04) Second (3884562 -8.83) Third (3884628 -8.94) Stop 3886138 First (3886064 5.96) Second (3886040 -2.48) Third (3886085 -5.55) Stop 3887774 First (3886359 6.6) Second (3886344 3.76) Third (3886464 -1.13) Stop 3889112 First (3887865 4.85) Second (3887910 4.69) Third (3887943 -2.06) Stop 3890419 First (3889244 5.52) Second (3889304 4.06) Third (3889406 1.15) Stop 3891353 First (3890493 -1.16) Second (3890634 -1.65) Third (3890385 -1.67) Stop 3892259 First (3891510 4.5) Second (3891498 2.94) Third (3891663 -6.64) Stop 3892847 First (3892281 7.54) Second (3892344 1.7) Third (3892293 -1.79) Stop 3895068 First (3894403 5.93) Second (3894487 -3.23) Third (3894772 -7.26) Stop 3895602 First (3895135 7.34) Second (3895312 -1.45) Third (3895327 -4.45) Stop 3896238 First (3895651 5.42) Second (3895957 -9.58) Third (3895969 -12.2) Stop 3905230 First (3904469 -1.15) Second (3904805 -5.16) Third (3904685 -5.43) Stop 3913624 First (3912920 3.93) Second (3913028 -2.25) Third (3913034 -2.41) Stop 3917632 First (3916034 -6.27) Second (3915953 -6.33) Third (3916049 -9.16) Stop 3918409 First (3917672 -6.8) Second (3917738 -7.55) Third (3917903 -7.68) Stop 3925775 First (3924783 10.32) Second (3924924 -1.52) Third (3924957 -1.56) Stop 3930502 First (3928943 3.91) Second (3929201 -0.27) Third (3928967 -0.31) Stop 3931396 First (3930977 7.39) Second (3930941 4.3) Third (3931130 0.6) Stop 3932909 First (3931404 5.11) Second (3931500 -0.23) Third (3931542 -0.54) Stop 3933879 First (3932914 9.67) Second (3932965 -0.52) Third (3933109 -2.57) Stop 3934794 First (3933904 5.04) Second (3933910 1.55) Third (3933898 1.03) Stop 3935849 First (3934920 3.24) Second (3934905 -0.05) Third (3934893 -3.28) Stop 3936845 First (3935853 1.88) Second (3935862 0.0) Third (3936186 -4.36) Stop 3946047 First (3945709 4.79) Second (3945952 -7.67) Third (3945937 -7.89) Stop 3948043 First (3947945 2.87) Second (3947978 -1.66) Third (3947963 -3.73) Stop 3949166 First (3948183 6.29) Second (3948264 1.65) Third (3948336 -0.22) Stop 3949827 First (3949318 1.27) Second (3949387 -1.96) Third (3949291 -3.26) Stop 3950087 First (3949824 6.63) Second (3949827 6.4) Third (3949929 -2.65) Stop 3951036 First (3950107 7.69) Second (3950182 0.06) Third (3950041 -1.48) Stop 3952949 First (3951177 -0.51) Second (3951156 -2.44) Third (3951132 -3.32) Stop 3954496 First (3952952 13.12) Second (3953060 -0.39) Third (3953009 -3.74) Stop 3957066 First (3955591 1.07) Second (3955456 0.48) Third (3955459 -3.03) Stop 3960313 First (3958292 2.87) Second (3958241 0.09) Third (3958529 -4.8) Stop 3963705 First (3963376 5.23) Second (3963322 0.18) Third (3963364 -0.6)

Stop 3963947 First (3963936 1.88) Second (3963846 1.25) Third (3963915 -5.61) Stop 3965291 First (3964032 1.42) Second (3963960 1.38) Third (3964116 -0.25) Stop 3966634 First (3965531 0.24) Second (3965546 -1.41) Third (3965630 -2.61) Stop 3967692 First (3966646 4.87) Second (3966658 1.07) Third (3966751 0.46) Stop 3968875 First (3967793 1.67) Second (3967748 0.27) Third (3967706 -2.93) Stop 3970134 First (3968872 5.85) Second (3969154 -3.69) Third (3969256 -5.12) Stop 3971201 First (3970134 5.48) Second (3970257 -0.43) Third (3970218 -4.98) Stop 3972101 First (3971220 9.02) Second (3971316 -2.86) Third (3971295 -3.75) Stop 3972753 First (3972079 3.98) Second (3972148 -5.15) Third (3972295 -5.87) Stop 3973888 First (3972758 4.49) Second (3972806 -1.22) Third (3972983 -3.65) Stop 3975140 First (3973890 0.53) Second (3973896 -3.22) Third (3973977 -3.94) Stop 3976217 First (3975276 3.15) Second (3975687 -4.92) Third (3975495 -7.97) Stop 3977566 First (3976214 7.52) Second (3976304 -2.74) Third (3976574 -5.82) Stop 3978309 First (3977569 7.86) Second (3977635 -1.89) Third (3977713 -1.93) Stop 3979885 First (3978500 6.46) Second (3978593 -4.18) Third (3978695 -5.01) Stop 3981806 First (3980571 3.35) Second (3980703 -3.13) Third (3980541 -3.46) Stop 3991312 First (3988766 -0.03) Second (3988817 -0.86) Third (3988844 -3.15) Stop 3991948 First (3991463 2.08) Second (3991787 -7.55) Third (3991652 -8.4) Stop 3992338 First (3992135 4.91) Second (3992144 -0.83) Third (3992282 -10.14) Stop 3993199 First (3992375 7.31) Second (3992372 3.93) Third (3992390 1.31) Stop 3993903 First (3993196 4.59) Second (3993409 -2.42) Third (3993367 -3.48) Stop 3994796 First (3993900 3.59) Second (3994062 -5.89) Third (3994056 -6.57) Stop 3995512 First (3994796 9.74) Second (3994910 -1.15) Third (3995009 -5.71) Stop 3997758 First (3995410 -1.98) Second (3995407 -3.76) Third (3995827 -7.4) Stop 3999988 First (3999038 5.43) Second (3999023 -4.84) Third (3999524 -8.1) Stop 4003342 First (4002473 4.98) Second (4002545 -0.47) Third (4002497 -1.84) Stop 4005301 First (4003475 2.71) Second (4003469 0.88) Third (4003490 -2.26) Stop 4005646 First (4005371 2.53) Second (4005365 2.09) Third (4005413 -2.49) Stop 4005984 First (4005628 1.35) Second (4005517 -3.71) Third (4005616 -5.67) Stop 4007798 First (4006776 5.94) Second (4006887 -1.15) Third (4006902 -2.12) Stop 4008433 First (4007987 5.13) Second (4008164 -3.0) Third (4007918 -3.06) Stop 4008590 First (4008423 2.3) Second (4008453 0.92) Third (4008528 -1.32) Stop 4009565 First (4008666 0.97) Second (4008861 -5.6) Third (4008882 -6.33) Stop 4012904 First (4010643 9.25) Second (4010652 -1.78) Third (4010769 -3.25) Stop 4014779 First (4014018 9.09) Second (4014108 -1.91) Third (4014129 -2.51) Stop 4016347 First (4014920 6.09) Second (4014935 5.09) Third (4015040 -3.67) Stop 4017197 First (4016511 3.81) Second (4016442 1.74) Third (4016445 0.39) Stop 4017816 First (4017211 6.36) Second (4017229 -1.84) Third (4017319 -1.91) Stop 4019453 First (4017813 9.85) Second (4017894 0.41) Third (4018032 -1.9) Stop 4019801 First (4019532 5.57) Second (4019490 3.23) Third (4019658 1.23) Stop 4020322 First (4019921 -3.26) Second (4020080 -3.62) Third (4020050 -4.69) Stop 4021101 First (4020325 2.33) Second (4020499 0.91) Third (4020403 -4.2) Stop 4021751 First (4021143 5.45) Second (4021131 3.67) Third (4021164 -4.01) Stop 4021926 First (4021585 0.86) Second (4021678 0.4) Third (4021642 -0.85) Stop 4024071 First (4022578 6.84) Second (4022587 1.43) Third (4022755 0.9) Stop 4024818 First (4024117 2.96) Second (4024138 0.52) Third (4024237 -3.14) Stop 4030082 First (4028751 9.68) Second (4028943 -4.75) Third (4028904 -4.86) Stop 4030696 First (4030079 -1.69) Second (4030082 -2.2) Third (4030154 -3.02) Stop 4032033 First (4030735 5.45) Second (4030795 0.1) Third (4030951 -1.71) Stop 4032742 First (4032197 5.04) Second (4032305 -1.29) Third (4032347 -2.25) Stop 4039918 First (4039649 5.59) Second (4039619 -3.78) Third (4039814 -7.23) Stop 4040982 First (4040044 3.44) Second (4039996 3.34) Third (4040074 0.0) Stop 4041625 First (4040999 6.75) Second (4041221 -1.83) Third (4041293 -4.02)

Stop 4043209 First (4041779 5.87) Second (4041737 -3.63) Third (4041932 -4.98) Stop 4047332 First (4044546 4.16) Second (4044660 -0.77) Third (4044696 -5.06) Stop 4049436 First (4048927 1.21) Second (4049200 -4.73) Third (4048864 -6.57) Stop 4050998 First (4049625 7.13) Second (4049619 0.66) Third (4049757 -3.41) Stop 4057762 First (4055987 4.26) Second (4056113 -1.6) Third (4055999 -3.08) Stop 4058736 First (4058026 7.36) Second (4058158 1.6) Third (4058233 0.0) Stop 4059724 First (4058744 2.16) Second (4058747 -0.16) Third (4058831 -3.45) Stop 4061091 First (4059826 5.15) Second (4059943 -2.08) Third (4059970 -3.09) Stop 4072215 First (4071319 6.28) Second (4071352 2.9) Third (4071403 1.02) Stop 4073034 First (4072249 8.16) Second (4072321 0.26) Third (4072228 -0.16) Stop 4073732 First (4073133 11.01) Second (4073250 1.83) Third (4073160 1.33) Stop 4074598 First (4073726 4.75) Second (4073819 3.86) Third (4073849 -4.29) Stop 4075032 First (4074649 3.87) Second (4074595 2.28) Third (4074679 -0.46) Stop 4076018 First (4075077 2.75) Second (4075200 -0.14) Third (4075029 -1.25) Stop 4077089 First (4076871 4.7) Second (4076877 1.18) Third (4076844 0.1) Stop 4077549 First (4077307 3.85) Second (4077331 3.25) Third (4077391 -5.57) Stop 4083660 First (4083172 - 3.54) Second (4082959 - 7.0) Third (4083034 - 10.01) Stop 4084429 First (4083596 1.69) Second (4083629 -0.07) Third (4083761 -6.45) Stop 4085637 First (4084582 8.05) Second (4084624 1.02) Third (4084813 -4.87) Stop 4096153 First (4095317 9.1) Second (4095461 -0.67) Third (4095335 -2.1) Stop 4097075 First (4096137 -0.04) Second (4096227 -2.96) Third (4096053 -3.7) Stop 4099011 First (4098391 2.61) Second (4098460 -2.75) Third (4098385 -5.53) Stop 4100254 First (4099313 6.02) Second (4099271 3.24) Third (4099310 -1.75) Stop 4101077 First (4100403 6.05) Second (4100388 3.86) Third (4100373 1.4) Stop 4103900 First (4103532 3.18) Second (4103586 3.09) Third (4103640 0.72) Stop 4104951 First (4104049 9.2) Second (4104031 -2.77) Third (4104190 -2.87) Stop 4106094 First (4105072 4.38) Second (4105132 4.28) Third (4105036 0.79) Stop 4107403 First (4106414 3.26) Second (4106444 0.06) Third (4106465 -2.24) Stop 4108265 First (4107510 1.83) Second (4107321 1.24) Third (4107363 -1.31) Stop 4110335 First (4109895 6.41) Second (4110129 -1.43) Third (4109988 -3.18) Stop 4110846 First (4110547 5.09) Second (4110676 0.98) Third (4110733 -2.66) Stop 4111301 First (4110873 9.48) Second (4111167 -2.17) Third (4110894 -3.1) Stop 4116340 First (4116095 6.2) Second (4116101 5.73) Third (4116113 -3.84) Stop 4116988 First (4116482 -0.12) Second (4116659 -9.27) Third (4116806 -9.85) Stop 4124805 First (4124593 6.34) Second (4124656 -1.02) Third (4124698 -5.32) Stop 4127412 First (4126252 1.53) Second (4126075 0.43) Third (4126108 -0.49) Stop 4129847 First (4127415 8.84) Second (4127421 3.25) Third (4127517 1.45) Stop 4131086 First (4130196 7.74) Second (4130304 -1.99) Third (4130367 -4.88) Stop 4133595 First (4131415 6.47) Second (4131412 0.96) Third (4131376 -3.35) Stop 4134593 First (4133688 2.55) Second (4133772 1.53) Third (4133655 -2.71) Stop 4139766 First (4139410 -1.09) Second (4139293 -1.91) Third (4139467 -4.55) Stop 4141188 First (4140109 2.41) Second (4140172 -2.49) Third (4140154 -4.74) Stop 4141523 First (4141203 6.16) Second (4141257 -0.97) Third (4141305 -1.32) Stop 4143871 First (4141574 5.88) Second (4141688 -4.05) Third (4141943 -5.19) Stop 4144715 First (4143837 5.4) Second (4143768 -0.41) Third (4143810 -2.42) Stop 4145058 First (4144717 10.41) Second (4144771 -2.04) Third (4144654 -2.47) Stop 4153584 First (4152580 2.31) Second (4152598 -1.12) Third (4152658 -1.41) Stop 4154368 First (4153595 4.54) Second (4153592 2.84) Third (4153745 -1.69) Stop 4155802 First (4154429 8.53) Second (4154540 -1.71) Third (4154618 -4.21) Stop 4156986 First (4156069 7.6) Second (4156096 -1.1) Third (4156039 -3.74) Stop 4159350 First (4158646 5.18) Second (4158703 0.82) Third (4158700 -1.5) Stop 4159709 First (4159350 5.55) Second (4159524 -3.89) Third (4159446 -4.36) Stop 4163062 First (4161218 2.55) Second (4161176 -0.26) Third (4161173 -7.0)

Stop 4163864 First (4163007 3.98) Second (4162995 -0.2) Third (4163076 -7.07) Stop 4170664 First (4169636 5.8) Second (4169936 -3.32) Third (4169819 -3.98) Stop 4171626 First (4170661 7.24) Second (4170676 2.92) Third (4170751 1.24) Stop 4174707 First (4173523 6.48) Second (4173796 -6.17) Third (4173859 -8.99) Stop 4175320 First (4174937 1.83) Second (4174985 0.26) Third (4175003 -3.14) Stop 4175867 First (4175322 6.89) Second (4175448 -1.92) Third (4175433 -2.46) Stop 4176453 First (4176025 7.7) Second (4176130 1.55) Third (4176073 0.15) Stop 4177161 First (4176457 10.24) Second (4176478 1.2) Third (4176781 -4.02) Stop 4178071 First (4177574 7.7) Second (4177685 -0.24) Third (4177727 -2.66) Stop 4178503 First (4178138 7.84) Second (4178180 0.34) Third (4178216 -0.43) Stop 4182851 First (4178823 5.4) Second (4178790 -1.33) Third (4179210 -8.07) Stop 4187151 First (4182928 4.52) Second (4183012 -3.98) Third (4183231 -9.31) Stop 4187903 First (4187364 7.51) Second (4187376 -0.11) Third (4187571 -2.05) Stop 4195254 First (4194481 3.26) Second (4194562 0.57) Third (4194595 -1.33) Stop 4196358 First (4195294 7.99) Second (4195432 2.05) Third (4195369 -4.13) Stop 4197039 First (4196368 10.76) Second (4196497 -1.35) Third (4196362 -3.79) Stop 4197672 First (4197082 5.26) Second (4197145 -1.14) Third (4197166 -4.41) Stop 4198131 Two predictions First (4197859 9.5) Second (4198012 -6.6) Stop 4198839 First (4198138 -0.21) Second (4198144 -1.17) Third (4198180 -1.29) Stop 4200901 First (4199504 4.39) Second (4199513 1.85) Third (4199666 -0.52) Stop 4202223 First (4200898 6.59) Second (4201054 -2.42) Third (4200925 -3.43) Stop 4204981 First (4203395 1.7) Second (4203524 -1.29) Third (4203566 -4.56) Stop 4211196 First (4210813 5.37) Second (4210777 1.46) Third (4211113 -2.53) Stop 4212788 First (4211859 7.32) Second (4211925 -0.51) Third (4211871 -0.85) Stop 4214658 First (4213057 6.59) Second (4213039 4.63) Third (4213399 -7.18) Stop 4215992 First (4214688 5.01) Second (4214673 0.23) Third (4214844 -1.32) Stop 4217911 First (4216175 7.49) Second (4216196 0.31) Third (4216313 -4.82) Stop 4225090 First (4221407 3.97) Second (4221473 1.64) Third (4221482 1.11) Stop 4226941 First (4225310 5.09) Second (4225595 -2.79) Third (4225385 -2.98) Stop 4228805 First (4227933 6.68) Second (4228029 -1.17) Third (4228131 -4.72) Stop 4232986 First (4231337 3.12) Second (4231331 -1.93) Third (4231400 -2.74) Stop 4233727 First (4233485 7.03) Second (4233560 -1.68) Third (4233644 -5.51) Stop 4234479 First (4233841 2.97) Second (4233979 -0.77) Third (4233811 -2.54) Stop 4235213 First (4234476 2.64) Second (4234551 -1.98) Third (4234380 -2.97) Stop 4237309 First (4235213 4.75) Second (4235369 -4.07) Third (4235351 -6.67) Stop 4238314 First (4237904 6.14) Second (4238021 -8.47) Third (4238087 -8.64) Stop 4245478 First (4244363 4.76) Second (4244297 2.59) Third (4244318 0.25) Stop 4246890 First (4245553 6.71) Second (4245550 5.5) Third (4245604 2.36) Stop 4248053 First (4247133 6.8) Second (4247139 2.2) Third (4247124 -1.16) Stop 4249862 First (4248534 1.86) Second (4248567 -1.74) Third (4248651 -4.97) Stop 4250582 First (4250085 3.23) Second (4250187 2.54) Third (4249974 -1.16) Stop 4251467 First (4250595 8.08) Second (4250769 -0.15) Third (4250643 -1.73) Stop 4254584 First (4254216 6.36) Second (4254504 -3.89) Third (4254336 -4.62) Stop 4255302 First (4254694 7.9) Second (4254724 0.46) Third (4254763 -3.07) Stop 4256700 First (4255321 3.22) Second (4255375 1.66) Third (4255426 -4.39) Stop 4257025 First (4256816 5.27) Second (4256864 0.13) Third (4256900 -1.23) Stop 4258154 First (4257900 2.4) Second (4257903 -0.59) Third (4258143 -4.3) Stop 4258885 First (4258178 1.66) Second (4258316 0.11) Third (4258145 -0.46) Stop 4260285 First (4259266 1.89) Second (4259248 -0.47) Third (4259242 -1.76) Stop 4260661 First (4260242 4.21) Second (4260215 4.1) Third (4260419 0.51) Stop 4263308 First (4261893 1.08) Second (4262016 1.05) Third (4261968 -0.8) Stop 4264440 First (4263361 6.32) Second (4263379 -1.84) Third (4263445 -2.52) Stop 4265886 First (4264693 1.6) Second (4264741 -3.9) Third (4264651 -4.51)

Stop 4267706 First (4266993 1.05) Second (4266753 -5.08) Third (4267182 -7.68) Stop 4268233 First (4267817 7.45) Second (4268075 1.0) Third (4267904 -1.65) Stop 4268593 First (4268237 9.64) Second (4268294 -1.06) Third (4268267 -2.64) Stop 4272240 First (4271704 5.05) Second (4271647 0.1) Third (4271773 -0.24) Stop 4274636 First (4273050 4.93) Second (4273041 0.62) Third (4273161 -1.13) Stop 4275512 First (4275048 6.85) Second (4275096 -4.06) Third (4275153 -4.12) Stop 4277407 First (4276058 6.18) Second (4276172 -2.45) Third (4276205 -5.36) Stop 4279208 First (4277559 4.61) Second (4277628 -0.11) Third (4277586 -2.03) Stop 4286779 First (4285343 3.17) Second (4285310 -2.42) Third (4285385 -5.47) Stop 4287390 First (4286824 6.86) Second (4286818 -0.36) Third (4287112 -2.2) Stop 4288058 First (4287387 7.09) Second (4287501 -0.27) Third (4287570 -2.58) Stop 4289011 First (4288055 9.94) Second (4288091 -2.68) Third (4288307 -3.27) Stop 4290749 First (4289091 -1.08) Second (4289094 -1.43) Third (4289127 -1.51) Stop 4291125 First (4290742 7.3) Second (4290949 -2.45) Third (4290916 -5.46) Stop 4291718 First (4291122 3.77) Second (4291056 0.16) Third (4291173 -4.3) Stop 4293373 First (4292060 5.97) Second (4292219 -2.44) Third (4292399 -5.77) Stop 4296909 First (4296499 -5.06) Second (4296583 -5.76) Third (4296523 -8.86) Stop 4311378 First (4310929 6.03) Second (4310986 -0.58) Third (4311016 -3.2) Stop 4311775 First (4311434 1.37) Second (4311440 -1.07) Third (4311752 -3.71) Stop 4313309 First (4313118 -1.51) Second (4313133 -2.32) Third (4313115 -2.64) Stop 4314973 First (4313705 -2.67) Second (4313720 -4.3) Third (4313699 -4.64) Stop 4320500 First (4320009 4.32) Second (4320030 0.76) Third (4320108 -3.53) Stop 4326941 First (4324713 8.3) Second (4324800 3.57) Third (4324923 -5.43) Stop 4327816 First (4327070 -2.32) Second (4327121 -2.36) Third (4327091 -2.59) Stop 4329582 First (4328080 4.27) Second (4328185 0.68) Third (4328266 -2.01) Stop 4340844 First (4339492 3.64) Second (4339489 2.56) Third (4339657 -7.08) Stop 4342368 First (4340959 2.28) Second (4340923 -2.84) Third (4340947 -4.23) Stop 4349651 First (4349421 5.61) Second (4349568 -3.42) Third (4349595 -7.21) Stop 4349935 First (4349663 6.19) Second (4349843 -0.98) Third (4349738 -4.7) Stop 4350458 First (4350162 6.21) Second (4350252 -1.33) Third (4350261 -3.18) Stop 4366718 First (4366242 2.36) Second (4366413 -3.86) Third (4366425 -4.41) Stop 4368559 First (4368266 8.09) Second (4368281 -3.78) Third (4368293 -4.04) Stop 4370249 First (4368603 8.48) Second (4368807 -2.03) Third (4368642 -2.81) Stop 4370740 First (4370387 5.39) Second (4370354 0.77) Third (4370375 -1.17) Stop 4373843 First (4373277 6.18) Second (4373322 0.75) Third (4373529 -3.42) Stop 4374770 First (4374453 2.14) Second (4374303 -4.21) Third (4374558 -5.43) Stop 4377816 First (4377349 -2.13) Second (4377442 -3.22) Third (4377352 -4.62) Stop 4381198 First (4380221 6.66) Second (4380191 0.91) Third (4380347 0.01) Stop 4382919 First (4381417 3.93) Second (4381462 1.26) Third (4381438 -0.61) Stop 4383285 First (4382971 5.82) Second (4383223 -2.45) Third (4383106 -4.78) Stop 4383596 First (4383294 2.31) Second (4383282 1.54) Third (4383372 0.85) Stop 4387893 First (4386868 -0.97) Second (4387012 -5.07) Third (4387129 -8.36) Stop 4389727 First (4389128 3.82) Second (4389182 1.75) Third (4389224 -1.33) Stop 4393191 First (4391644 7.83) Second (4391659 4.58) Third (4391740 -1.97) Stop 4393624 First (4393163 1.89) Second (4393439 1.83) Third (4393166 1.83) Stop 4394980 First (4393646 2.39) Second (4393643 0.9) Third (4393628 -2.54) Stop 4396837 First (4394990 6.28) Second (4394987 -0.45) Third (4395044 -0.61) Stop 4397780 First (4396875 5.12) Second (4396830 2.88) Third (4396872 0.93) Stop 4398174 First (4397866 8.76) Second (4397992 -4.13) Third (4397944 -5.8) Stop 4399530 First (4398250 3.71) Second (4398319 2.8) Third (4398379 -4.83) Stop 4400875 First (4399616 6.89) Second (4399934 -11.26) Third (4400018 -11.3) Stop 4401882 First (4400878 10.28) Second (4400929 1.17) Third (4401067 -4.43) Stop 4402161 First (4401964 8.41) Second (4402024 3.24) Third (4402051 1.87)

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Stop 4403563 First (4402265 3.4) Second (4402514 -4.37) Third (4402505 -8.66)
Stop 4404193 First (4403768 1.65) Second (4403816 -0.86) Third (4403840 -1.62)
Stop 4406673 First (4404232 7.44) Second (4404190 -4.12) Third (4404484 -8.19)
Stop 4407584 First (4406853 5.41) Second (4406862 3.34) Third (4406994 -3.41)
Stop 4408112 First (4407711 6.8) Second (4407807 1.67) Third (4407726 -0.36)
Stop 4408829 First (4408131 6.73) Second (4408218 -1.32) Third (4408212 -3.53)
Stop 4409539 First (4408880 9.4) Second (4409009 -5.25) Third (4409252 -5.67)
Stop 4409955 First (4409557 4.9) Second (4409476 0.18) Third (4409899 -6.24)
Stop 4410603 First (4409965 4.18) Second (4410097 -3.5) Third (4410088 -8.4)
Stop 4411769 First (4410606 5.37) Second (4410780 -3.55) Third (4410627 -3.59)
Stop 4413478 First (4411853 5.67) Second (4411838 0.81) Third (4412042 -3.86)
Stop 4415279 First (4414530 7.54) Second (4414704 -0.61) Third (4414692 -5.64)
Stop 4418955 First (4417558 7.11) Second (4417633 0.05) Third (4417603 -1.34)
Stop 4419276 First (4418971 10.16) Second (4419019 3.66) Third (4418965 2.69)
Stop 4419750 First (4419286 5.23) Second (4419361 -0.98) Third (4419481 -1.3)
Stop 4420414 First (4419566 6.14) Second (4419764 0.63) Third (4419677 -1.73)
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Stop 4421964 First (4421278 7.74) Second (4421314 0.94) Third (4421230 -2.98)
Stop 4423091 First (4422696 9.52) Second (4422756 2.22) Third (4422720 -0.06)
Stop 4423412 First (4423098 5.47) Second (4423245 -1.04) Third (4423203 -1.41)
Stop 4423644 One prediction (4423417 6.7)
Stop 4424135 First (4423686 7.91) Second (4424109 -11.93) Third (4424013 -12.31)
Stop 4425673 First (4425347 -3.52) Second (4425374 -3.65) Third (4425443 -4.73)
Stop 4427133 First (4426513 2.6) Second (4426357 2.41) Third (4426354 2.22)
Stop 4428854 First (4427442 5.65) Second (4427568 1.08) Third (4427637 -5.28)
Stop 4429507 First (4428872 -2.26) Second (4429193 -4.26) Third (4428950 -5.72)
Stop 4432071 First (4431691 1.86) Second (4431601 0.78) Third (4431805 -0.67)
Stop 4435073 First (4434333 6.34) Second (4434408 3.91) Third (4434381 1.49)
Stop 4435785 First (4435285 5.26) Second (4435324 -4.08) Third (4435525 -5.28)
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Stop 4437370 First (4437164 6.29) Second (4437125 1.07) Third (4437098 0.2)
Stop 4441692 First (4439959 5.36) Second (4440109 -5.53) Third (4440238 -7.11)
Stop 4445468 First (4441689 6.03) Second (4441752 -1.51) Third (4441815 -3.91)
Stop 4445812 First (4445471 4.21) Second (4445525 1.24) Third (4445738 -2.37)
Stop 4446275 First (4446024 10.78) Second (4446063 5.44) Third (4446129 1.87)
Stop 4446619 First (4446269 6.06) Second (4446305 3.32) Third (4446401 -1.56)
Stop 4447223 First (4446621 0.52) Second (4446555 -2.43) Third (4446807 -3.64)
Stop 4448495 First (4447539 5.7) Second (4447590 -3.4) Third (4447581 -4.5)
Stop 4449886 First (4448633 7.18) Second (4448744 -3.99) Third (4448927 -9.02)
Stop 4450134 First (4450054 -6.56) Second (4450027 -10.99) Third (4449862 -11.31)
Stop 4451170 First (4450148 8.03) Second (4450145 4.45) Third (4450124 -3.03)
Stop 4452152 First (4451157 4.85) Second (4451181 -0.14) Third (4451172 -1.4)
Stop 4454732 First (4453359 6.05) Second (4453395 1.33) Third (4453410 -0.09)
Stop 4456885 First (4455533 2.85) Second (4455545 -2.65) Third (4455695 -8.77)
Stop 4457429 First (4457127 1.99) Second (4457205 -2.2) Third (4457280 -2.56)
Stop 4467895 First (4465199 8.38) Second (4465331 -4.15) Third (4465340 -4.45)
Stop 4468658 Two predictions First (4468194 -1.34) Second (4468581 -13.45)
Stop 4470419 First (4470087 4.04) Second (4470168 -0.38) Third (4470165 -6.05)
Stop 4471965 First (4471801 0.34) Second (4471894 -3.6) Third (4471903 -4.75)
Stop 4472291 First (4471698 2.23) Second (4471776 -7.46) Third (4472037 -11.1)
Stop 4472888 First (4472436 9.54) Second (4472589 -0.26) Third (4472673 -0.91)
Stop 4474825 First (4473011 7.29) Second (4472975 2.3) Third (4473254 -4.46)
Stop 4476452 First (4476036 6.42) Second (4476081 -2.35) Third (4476327 -5.04)
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Stop 4478491 First (4477310 -0.69) Second (4477436 -2.15) Third (4477466 -8.45) Stop 4484886 First (4483786 2.35) Second (4483807 0.37) Third (4484005 -3.2) Stop 4485968 First (4484886 6.21) Second (4484883 1.51) Third (4485045 -0.78) Stop 4492754 First (4492191 8.67) Second (4492215 1.54) Third (4492326 -1.05) Stop 4495508 First (4494390 3.42) Second (4494318 0.28) Third (4494360 -1.7) Stop 4496205 First (4495840 5.53) Second (4495795 -0.37) Third (4495927 -1.3) Stop 4497068 First (4496163 2.48) Second (4496277 -2.51) Third (4496412 -4.45) Stop 4497502 First (4497167 -0.64) Second (4497329 -2.84) Third (4497362 -4.06) Stop 4499157 Two predictions First (4498828 0.86) Second (4499113 -4.33) Stop 4502843 First (4501626 3.54) Second (4501569 -1.89) Third (4501722 -4.24) Stop 4503973 First (4502855 7.83) Second (4502912 0.47) Third (4502840 -0.95) Stop 4504677 First (4504474 3.54) Second (4504513 -4.79) Third (4504654 -4.81) Stop 4505031 First (4504765 3.96) Second (4504729 -1.15) Third (4504858 -4.23) Stop 4507122 First (4506526 2.15) Second (4506709 1.27) Third (4506685 -1.75) Stop 4507701 First (4507558 2.13) Second (4507288 0.13) Third (4507444 -0.58) Stop 4516370 First (4516095 1.55) Second (4516146 -2.35) Third (4516269 -4.29) Stop 4516582 First (4516499 -0.47) Second (4516289 -0.55) Third (4516397 -2.34) Stop 4533599 First (4532583 3.18) Second (4532613 -0.07) Third (4532775 -3.35) Stop 4539127 First (4538525 5.21) Second (4538495 -2.1) Third (4538948 -7.03) Stop 4540201 First (4539605 2.03) Second (4539650 0.78) Third (4539647 -0.85) Stop 4541231 Two predictions First (4540683 6.9) Second (4541052 -14.23) Stop 4541835 First (4541197 3.54) Second (4541203 1.07) Third (4541188 -0.35) Stop 4542597 First (4541872 2.76) Second (4541941 2.38) Third (4541947 0.11) Stop 4545301 First (4542665 8.28) Second (4542731 -2.38) Third (4542788 -3.42) Stop 4545841 First (4545311 8.86) Second (4545308 -0.58) Third (4545428 -0.72) Stop 4546357 First (4545854 5.21) Second (4545848 1.6) Third (4545881 -0.56) Stop 4547279 First (4546377 3.08) Second (4546368 0.94) Third (4546545 -3.28) Stop 4550389 First (4549205 7.32) Second (4549169 -1.86) Third (4549283 -2.85) Stop 4551930 First (4550470 6.67) Second (4550545 -0.6) Third (4550650 -1.71) Stop 4552918 First (4552145 4.3) Second (4552193 3.3) Third (4552268 -2.58) Stop 4554954 First (4554565 6.09) Second (4554562 5.88) Third (4554553 -1.16) Stop 4559053 First (4558499 3.34) Second (4558397 2.1) Third (4558454 1.3) Stop 4566878 First (4566648 4.69) Second (4566567 3.77) Third (4566837 0.31) Stop 4567487 First (4566927 -2.81) Second (4567053 -2.83) Third (4567299 -2.93) Stop 4569484 First (4569320 11.85) Second (4569476 -1.48) Third (4569404 -2.9) Stop 4571500 First (4569983 1.6) Second (4570040 -2.73) Third (4569935 -3.45) Stop 4573245 First (4571704 -5.87) Second (4571710 -6.04) Third (4571854 -8.15) Stop 4574425 First (4573196 5.3) Second (4573163 2.4) Third (4573355 -2.8) Stop 4585433 First (4584519 6.77) Second (4584741 -7.4) Third (4584846 -10.71) Stop 4590882 First (4589227 5.16) Second (4589248 -2.48) Third (4589452 -4.24) Stop 4594581 First (4593559 5.9) Second (4593544 3.91) Third (4593568 -1.66) Stop 4601771 First (4601046 7.16) Second (4601049 3.87) Third (4601121 3.04) Stop 4602406 First (4601729 4.48) Second (4601879 0.07) Third (4601783 -1.1) Stop 4603609 First (4603334 0.81) Second (4603373 -0.73) Third (4603439 -1.27) Stop 4605785 First (4605372 7.46) Second (4605531 -4.73) Third (4605678 -7.46) Stop 4606200 First (4605754 -4.02) Second (4605904 -7.37) Third (4605949 -8.86) Stop 4606892 First (4606215 3.88) Second (4606290 -7.61) Third (4606482 -8.41) Stop 4608572 First (4606983 3.3) Second (4606956 0.1) Third (4607166 -2.44) Stop 4609570 First (4608965 5.74) Second (4608971 1.74) Third (4608887 -1.46) Stop 4611053 First (4609980 1.06) Second (4610118 0.99) Third (4610061 -2.46) Stop 4611829 First (4611050 2.38) Second (4611275 -4.31) Third (4611254 -4.8) Stop 4615671 First (4614892 8.01) Second (4614868 3.72) Third (4614934 0.69) Stop 4617120 First (4615798 5.44) Second (4615948 -5.97) Third (4615954 -6.13)

Stop 4618395 First (4617172 7.64) Second (4617190 -1.69) Third (4617445 -3.3) Stop 4619171 First (4618452 6.81) Second (4618395 1.13) Third (4618479 -0.22) Stop 4620669 First (4619338 1.7) Second (4619452 -2.5) Third (4619389 -7.16) Stop 4623432 First (4622326 3.89) Second (4622464 3.66) Third (4622377 -1.61) Stop 4624863 First (4623481 2.24) Second (4623433 -0.71) Third (4623589 -3.85) Stop 4626116 First (4624884 8.49) Second (4624863 2.28) Third (4624962 -3.94) Stop 4630239 First (462302 2.29) Second (4628446 2.03) Third (4628275 -0.48) Stop 4630655 First (4630329 1.88) Second (4630359 -3.13) Third (4630491 -3.51) Stop 4632013 First (4631366 5.99) Second (4631474 0.48) Third (4631618 -3.37) Stop 4633563 First (4633090 0.93) Second (4633129 -0.54) Third (4633186 -2.86) Stop 4634265 First (4633576 7.21) Second (4633600 1.84) Third (4633726 -0.51) Stop 4635689 First (4635747 6.11) Second (4635750 2.76) Third (4638774 -1.54) Stop 4638111 First (4637971 1.59) Second (4638067 -0.45) Third (4638040 -4.45) Stop 4639197 First (4638511 3.38) Second (4638586 0.48) Third (4638577 0.36)

END OF FORWARD STRAND

BEGINNING OF REVERSE STRAND

Stop 4637159 First (4637875 5.24) Second (4637839 -2.88) Third (4637761 -3.9) Stop 4632010 First (4632879 10.02) Second (4632759 -4.06) Third (4632507 -4.34) Stop 4630802 First (4631314 3.93) Second (4631323 1.21) Third (4631098 -3.38) Stop 4630415 First (4630771 0.03) Second (4630684 -5.1) Third (4630564 -5.31) Stop 4626424 First (4628091 2.03) Second (4628070 -2.16) Third (4627938 -4.29) Stop 4621714 First (4622358 4.87) Second (4622280 -2.7) Third (4622289 -5.7) Stop 4620670 First (4621686 7.68) Second (4621605 -3.48) Third (4621506 -5.45) Stop 4613084 First (4614634 8.06) Second (4614457 0.37) Third (4614574 -7.29) Stop 4612249 First (4613112 2.14) Second (4612953 -4.35) Third (4612893 -5.2) Stop 4610864 First (4611082 5.24) Second (4611076 -1.04) Third (4610956 -3.78) Stop 4608932 First (4609624 -1.59) Second (4609432 -6.46) Third (4609495 -8.98) Stop 4606719 First (4608209 - 3.84) Second (4608047 - 7.7) Third (4608092 - 10.27) Stop 4604238 First (4605269 8.75) Second (4605095 -1.68) Third (4605239 -4.32) Stop 4602444 First (4603232 -0.22) Second (4603070 -4.44) Third (4603148 -7.1) Stop 4599657 First (4600427 4.13) Second (4600481 1.69) Third (4600301 -0.6) Stop 4599193 First (4599666 5.59) Second (4599660 -3.48) Third (4599474 -4.0) Stop 4598547 First (4599086 3.87) Second (4598816 -1.8) Third (4598996 -2.46) Stop 4597807 First (4598544 6.2) Second (4598388 -0.66) Third (4598523 -2.51) Stop 4597264 First (4597755 4.07) Second (4597758 1.67) Third (4597761 -1.87) Stop 4594719 First (4597010 1.95) Second (4596743 -5.45) Third (4596761 -7.35) Stop 4592507 First (4593313 0.28) Second (4593130 -1.46) Third (4593154 -4.25) Stop 4590931 First (4592292 3.22) Second (4591953 -4.46) Third (4592223 -6.84) Stop 4586699 First (4588849 4.48) Second (4588864 1.66) Third (4588813 -4.17) Stop 4586446 First (4586649 5.23) Second (4586598 0.39) Third (4586526 -1.26) Stop 4585479 First (4586435 3.65) Second (4586519 0.97) Third (4586474 -4.37) Stop 4580819 First (4584331 3.79) Second (4584328 3.51) Third (4584385 3.01) Stop 4579029 First (4580618 4.97) Second (4580504 -3.29) Third (4580417 -5.3) Stop 4577638 First (4579032 5.1) Second (4579017 -1.09) Third (4578912 -6.31) Stop 4577069 First (4577410 4.85) Second (4577167 0.83) Third (4577467 -2.84) Stop 4575528 First (4576907 5.68) Second (4576925 5.61) Third (4576799 -5.24) Stop 4574482 First (4575528 3.02) Second (4575558 2.0) Third (4575516 0.83) Stop 4567731 First (4569143 6.63) Second (4569059 -0.26) Third (4569068 -1.41) Stop 4566363 Two predictions First (4566596 2.05) Second (4566413 -2.53)

Stop 4564856 First (4566088 5.39) Second (4565974 -1.29) Third (4566187 -2.03) Stop 4563535 First (4564815 0.31) Second (4564698 -3.37) Third (4564674 -4.43) Stop 4562268 First (4563419 6.41) Second (4563344 0.71) Third (4563275 -1.41) Stop 4561491 First (4562258 5.5) Second (4562264 -0.15) Third (4562060 -4.24) Stop 4561237 First (4561494 4.89) Second (4561419 -0.02) Third (4561323 -2.63) Stop 4560312 First (4561172 -0.2) Second (4561283 -4.14) Third (4561280 -5.69) Stop 4559066 First (4560244 6.37) Second (4560166 0.08) Third (4560121 -5.54) Stop 4557566 First (4558249 4.3) Second (4558261 -1.09) Third (4558201 -5.06) Stop 4557108 First (4557569 7.29) Second (4557542 2.13) Third (4557536 -2.49) Stop 4555923 First (4557095 8.26) Second (4557047 2.05) Third (4556798 -6.78) Stop 4554947 First (4555858 5.08) Second (4555837 -4.69) Third (4555690 -6.19) Stop 4553059 First (4553889 6.72) Second (4553883 3.14) Third (4553778 -2.44) Stop 4547522 First (4548865 7.92) Second (4548736 0.9) Third (4548727 0.45) Stop 4536353 First (4537069 3.01) Second (4536901 0.45) Third (4536778 -3.77) Stop 4535227 First (4536333 4.91) Second (4536420 -0.23) Third (4536441 -1.59) Stop 4534182 First (4535189 0.73) Second (4535099 -0.44) Third (4535162 -3.28) Stop 4531364 Two predictions First (4531621 4.74) Second (4531498 -5.53) Stop 4530807 First (4531352 9.66) Second (4531133 -1.07) Third (4531247 -2.87) Stop 4530005 First (4530751 7.36) Second (4530553 0.47) Third (4530604 0.06) Stop 4528098 First (4529219 6.18) Second (4529249 -1.72) Third (4529207 -3.75) Stop 4527823 First (4528101 6.43) Second (4528086 -0.61) Third (4528053 -2.65) Stop 4526498 First (4527811 9.43) Second (4527658 -2.1) Third (4527676 -2.78) Stop 4525679 First (4526485 10.44) Second (4526347 2.33) Third (4526437 0.56) Stop 4525117 First (4525548 5.75) Second (4525368 -4.42) Third (4525488 -7.69) Stop 4524473 First (4525105 6.24) Second (4524958 -2.23) Third (4525042 -4.25) Stop 4523674 First (4524456 7.81) Second (4524465 -1.0) Third (4524423 -2.12) Stop 4522583 First (4523371 10.36) Second (4523290 1.2) Third (4523302 1.06) Stop 4521673 First (4522608 4.64) Second (4522578 4.44) Third (4522632 4.24) Stop 4519695 First (4521662 7.19) Second (4521527 -0.12) Third (4521563 -3.73) Stop 4518239 First (4519588 6.7) Second (4519570 -0.7) Third (4519468 -4.06) Stop 4516906 First (4517892 3.04) Second (4517784 -1.52) Third (4517634 -5.33) Stop 4515282 First (4515803 0.62) Second (4515665 -1.15) Third (4515527 -3.52) Stop 4514332 First (4515285 2.9) Second (4515276 -3.28) Third (4515021 -7.98) Stop 4511921 First (4514245 2.41) Second (4514209 -5.96) Third (4513897 -15.83) Stop 4510974 First (4511876 3.44) Second (4511882 1.56) Third (4511873 0.28) Stop 4509979 First (4510977 0.4) Second (4510956 -5.34) Third (4510713 -7.52) Stop 4509026 First (4509982 -5.83) Second (4510492 -5.92) Third (4509901 -12.93) Stop 4508258 First (4509025 4.46) Second (4508869 -1.9) Third (4508824 -2.14) Stop 4506142 First (4506510 7.97) Second (4506189 -5.21) Third (4506333 -10.16) Stop 4505034 First (4506185 8.65) Second (4506068 1.38) Third (4505975 -2.5) Stop 4504194 First (4504544 2.56) Second (4504451 1.4) Third (4504589 -2.1) Stop 4499671 First (4500999 3.59) Second (4501017 0.5) Third (4500765 -4.91) Stop 4498000 First (4498359 1.82) Second (4498467 0.92) Third (4498449 -1.36) Stop 4497611 First (4498042 4.43) Second (4498036 -0.04) Third (4498057 -3.48) Stop 4497245 First (4497400 2.09) Second (4497307 -4.91) Third (4497487 -5.03) Stop 4492758 First (4493777 4.43) Second (4493819 1.69) Third (4493771 1.41) Stop 4490943 First (4491974 6.33) Second (4491968 1.97) Third (4491809 -0.7) Stop 4490155 First (4490919 7.59) Second (4490883 1.53) Third (4490421 -5.34) Stop 4488774 First (4490093 5.05) Second (4489973 -0.53) Third (4489907 -0.78) Stop 4487709 First (4488707 7.5) Second (4488737 3.98) Third (4488650 -0.15) Stop 4486129 First (4487631 7.03) Second (4487478 -5.68) Third (4487571 -6.25) Stop 4482008 First (4483519 6.35) Second (4483462 0.65) Third (4483342 -5.01) Stop 4481405 First (4481848 1.43) Second (4481776 -2.84) Third (4481734 -9.17)

Stop 4478550 First (4481405 5.47) Second (4481294 1.62) Third (4481222 -1.84) Stop 4476597 First (4476890 -1.56) Second (4476746 -1.79) Third (4476764 -5.58) Stop 4474870 First (4475874 9.45) Second (4475442 -7.36) Third (4475589 -8.05) Stop 4470914 First (4471627 4.03) Second (4471705 -2.65) Third (4471390 -8.96) Stop 4470388 First (4470783 5.3) Second (4470510 -7.2) Third (4470606 -9.87) Stop 4469973 First (4470107 6.89) Second (4470134 2.89) Third (4470164 -1.07) Stop 4469034 First (4469969 8.61) Second (4469756 -1.95) Third (4469759 -3.36) Stop 4468560 First (4469021 9.93) Second (4469003 -2.96) Third (4468865 -5.99) Stop 4468101 First (4468487 7.44) Second (4468412 1.47) Third (4468526 1.36) Stop 4463873 First (4464820 5.25) Second (4464694 -3.06) Third (4464631 -3.65) Stop 4462333 First (4463751 3.52) Second (4463754 2.38) Third (4463718 -2.84) Stop 4460628 First (4462283 2.39) Second (4462430 -3.55) Third (4462340 -3.82) Stop 4458096 First (4460234 5.67) Second (4460198 -0.59) Third (4460219 -0.67) Stop 4457474 First (4457938 4.8) Second (4457788 -5.88) Third (4457632 -7.84) Stop 4454888 First (4455439 7.77) Second (4455217 -6.37) Third (4455196 -8.88) Stop 4452185 First (4453183 6.31) Second (4453246 -0.87) Third (4453111 -6.47) Stop 4446699 First (4447229 6.25) Second (4447094 -3.67) Third (4446977 -5.25) Stop 4445553 First (4445918 1.51) Second (4445987 0.23) Third (4445822 -0.15) Stop 4439115 First (4439753 5.62) Second (4439687 -0.15) Third (4439780 -0.65) Stop 4437449 First (4438792 5.39) Second (4438735 1.72) Third (4438627 1.34) Stop 4436285 First (4436839 6.46) Second (4436719 -1.72) Third (4436791 -3.39) Stop 4432200 First (4434143 5.45) Second (4434152 1.43) Third (4434035 -3.2) Stop 4430742 First (4431602 4.16) Second (4431545 -2.68) Third (4431461 -3.76) Stop 4429669 First (4430634 3.55) Second (4430595 0.21) Third (4430643 -0.58) Stop 4428899 First (4429561 6.79) Second (4429483 -0.24) Third (4429096 -8.02) Stop 4425657 First (4426295 9.24) Second (4426331 1.71) Third (4426226 1.63) Stop 4424206 First (4425000 5.14) Second (4424763 -1.58) Third (4424646 -10.46) Stop 4423659 First (4424069 -1.79) Second (4424147 -6.89) Third (4424090 -7.42) Stop 4422594 First (4422977 -7.34) Second (4422860 -9.61) Third (4422704 -10.37) Stop 4422094 First (4422369 8.34) Second (4422276 -1.0) Third (4422123 -2.17) Stop 4418952 First (4419203 -0.41) Second (4419287 -0.46) Third (4419248 -2.5) Stop 4416139 First (4417203 4.51) Second (4417209 3.71) Third (4417194 2.47) Stop 4415276 First (4416031 5.36) Second (4415974 0.77) Third (4415995 -1.58) Stop 4414019 First (4414348 3.02) Second (4414447 -0.06) Third (4414165 -4.84) Stop 4413595 First (4413882 5.84) Second (4413870 3.98) Third (4413897 -1.79) Stop 4402436 First (4403650 2.57) Second (4403635 1.76) Third (4402963 -19.52) Stop 4390506 First (4391753 - 3.79) Second (4391483 -4.43) Third (4391645 -5.02) Stop 4388035 First (4389087 2.6) Second (4389120 -2.42) Third (4389048 -3.15) Stop 4386970 First (4387938 1.77) Second (4387794 -1.62) Third (4387569 -7.16) Stop 4383625 First (4386948 2.95) Second (4386924 1.32) Third (4386681 -5.4) Stop 4378088 First (4379896 3.67) Second (4379773 -1.55) Third (4379650 -5.95) Stop 4377361 First (4378095 5.96) Second (4378086 0.64) Third (4378152 -2.35) Stop 4376955 First (4377350 9.0) Second (4377293 0.65) Third (4377317 -3.13) Stop 4376585 First (4376944 7.85) Second (4376878 1.48) Third (4376971 -3.04) Stop 4375389 First (4376522 - 3.14) Second (4376651 - 4.64) Third (4376555 - 6.38) Stop 4374767 First (4375300 8.52) Second (4375048 -5.41) Third (4375219 -7.44) Stop 4373325 First (4373876 -0.27) Second (4373873 -0.5) Third (4373879 -2.01) Stop 4372207 First (4373235 4.12) Second (4373169 -5.17) Third (4373139 -5.51) Stop 4370943 First (4371812 8.48) Second (4371701 -2.7) Third (4371578 -3.94) Stop 4368263 First (4368580 2.4) Second (4368568 -4.21) Third (4368286 -6.88) Stop 4366734 First (4367990 3.08) Second (4368050 0.6) Third (4367915 -2.81) Stop 4364469 First (4365905 1.3) Second (4365950 -5.91) Third (4365872 -6.22) Stop 4363050 First (4364351 7.17) Second (4364297 -1.69) Third (4364264 -3.7)

Stop 4362596 First (4362934 6.24) Second (4362751 -2.57) Third (4362844 -3.14) Stop 4360923 First (4362701 2.66) Second (4362620 -4.64) Third (4362392 -14.67) Stop 4360311 First (4360886 5.59) Second (4360910 -2.94) Third (4360811 -3.83) Stop 4357974 First (4359512 4.9) Second (4359167 -0.84) Third (4359212 -8.4) Stop 4356275 First (4357609 7.7) Second (4357549 -1.4) Third (4357552 -4.43) Stop 4354048 First (4356195 3.69) Second (4356168 -0.89) Third (4356234 -1.3) Stop 4352532 First (4353989 9.11) Second (4353911 -2.94) Third (4353950 -5.04) Stop 4350778 First (4352295 5.66) Second (4352322 -5.67) Third (4352058 -6.29) Stop 4347609 First (4349240 5.93) Second (4349171 -0.56) Third (4349228 -0.63) Stop 4346893 First (4347612 3.67) Second (4347579 -3.13) Third (4347438 -9.35) Stop 4344982 First (4346322 6.92) Second (4346169 -4.99) Third (4346103 -5.46) Stop 4343258 First (4344904 3.79) Second (4344865 2.37) Third (4344724 -4.8) Stop 4342507 First (4343136 -0.64) Second (4343016 -3.92) Third (4343025 -4.77) Stop 4338298 First (4339206 3.36) Second (4339125 0.43) Third (4339188 -0.63) Stop 4335832 First (4338099 4.25) Second (4338102 3.33) Third (4337913 -3.6) Stop 4334746 First (4335507 3.42) Second (4335405 -3.02) Third (4335444 -3.96) Stop 4333272 First (4334609 8.02) Second (4334540 4.27) Third (4334438 -0.27) Stop 4331525 First (4333213 0.79) Second (4333168 -0.01) Third (4333198 -1.49) Stop 4330860 First (4331528 7.13) Second (4331426 -1.83) Third (4331492 -2.76) Stop 4329759 First (4330859 5.21) Second (4330850 2.19) Third (4330781 0.02) Stop 4323977 First (4324312 3.38) Second (4324459 -0.34) Third (4324390 -1.44) Stop 4322876 First (4323319 4.71) Second (4322980 -4.83) Third (4323103 -5.12) Stop 4321955 First (4322743 11.05) Second (4322650 -3.64) Third (4322647 -3.87) Stop 4320914 First (4321930 8.79) Second (4321834 -1.38) Third (4321693 -2.59) Stop 4320239 First (4320808 3.88) Second (4320859 0.94) Third (4320706 -1.65) Stop 4320021 First (4320254 -7.56) Second (4320308 -7.7) Third (4320332 -9.66) Stop 4319275 First (4320000 6.83) Second (4320009 -2.91) Third (4319994 -3.1) Stop 4318822 First (4319274 6.77) Second (4319235 -2.61) Third (4319241 -4.11) Stop 4318241 First (4318825 3.86) Second (4318804 3.22) Third (4318753 -5.72) Stop 4317177 First (4318241 -0.66) Second (4318157 -7.73) Third (4318229 -11.2) Stop 4316339 First (4317184 1.26) Second (4317295 -1.75) Third (4317316 -2.66) Stop 4315584 First (4316342 7.28) Second (4316372 0.15) Third (4316246 -5.07) Stop 4314793 First (4315473 1.67) Second (4315587 -5.73) Third (4315572 -5.77) Stop 4313660 First (4314796 6.74) Second (4314757 0.64) Third (4314457 -3.16) Stop 4313103 First (4313657 5.76) Second (4313660 5.02) Third (4313636 2.52) Stop 4312682 First (4313116 8.77) Second (4312864 -0.18) Third (4312978 -3.07) Stop 4311922 First (4312680 3.11) Second (4312446 -5.64) Third (4312551 -9.43) Stop 4311389 First (4311796 3.41) Second (4311496 -7.49) Third (4311646 -7.71) Stop 4309680 First (4310570 3.19) Second (4310492 1.57) Third (4310573 0.17) Stop 4308686 First (4309621 4.26) Second (4309498 0.75) Third (4309576 0.56) Stop 4307027 First (4308559 6.87) Second (4308418 -0.26) Third (4308538 -2.24) Stop 4306068 First (4307048 7.94) Second (4306847 -4.85) Third (4306865 -6.79) Stop 4305362 First (4306057 5.95) Second (4306063 -0.63) Third (4306030 -1.09) Stop 4304449 First (4305378 5.77) Second (4305342 1.79) Third (4305225 -0.17) Stop 4302191 First (4304176 8.51) Second (4304188 2.66) Third (4304110 -3.88) Stop 4301707 First (4301982 6.45) Second (4301916 0.95) Third (4302030 -3.93) Stop 4300657 First (4301688 3.3) Second (4301382 -2.14) Third (4301637 -4.06) Stop 4298606 First (4300657 4.6) Second (4300495 -2.38) Third (4300516 -2.65) Stop 4297143 First (4298609 3.79) Second (4298222 -9.84) Third (4298273 -9.96) Stop 4296526 First (4296945 5.2) Second (4296750 -3.97) Third (4296588 -9.4) Stop 4294015 First (4294704 -1.83) Second (4294674 -4.99) Third (4294683 -5.62) Stop 4282992 First (4284950 8.68) Second (4284758 -7.05) Third (4284872 -7.07) Stop 4282478 First (4282792 5.37) Second (4282795 1.29) Third (4282576 -2.78)

Stop 4280832 First (4282481 6.72) Second (4282370 2.41) Third (4282232 -0.49) Stop 4279362 First (4280654 9.43) Second (4280630 3.02) Third (4280453 -2.16) Stop 4274639 First (4274962 7.12) Second (4274731 -4.29) Third (4274842 -4.39) Stop 4272339 First (4272620 4.12) Second (4272719 0.69) Third (4272623 -2.5) Stop 4268628 First (4271450 5.71) Second (4271366 -3.25) Third (4271249 -6.05) Stop 4266388 First (4266591 5.15) Second (4266576 -1.93) Third (4266630 -2.25) Stop 4260827 First (4261810 1.5) Second (4261918 -4.97) Third (4261846 -6.1) Stop 4257067 First (4257582 4.48) Second (4257642 4.03) Third (4257480 -1.75) Stop 4251622 First (4254045 4.79) Second (4254105 -2.15) Third (4253922 -3.81) Stop 4245230 First (4245421 0.81) Second (4245313 0.23) Third (4245496 -0.02) Stop 4242808 First (4243998 7.81) Second (4243944 -0.79) Third (4243947 -2.96) Stop 4241110 First (4242654 4.23) Second (4242669 -3.56) Third (4242432 -4.34) Stop 4240205 First (4241095 9.56) Second (4241089 0.65) Third (4241014 -2.3) Stop 4238358 First (4239833 6.39) Second (4239653 -2.58) Third (4239482 -7.44) Stop 4237356 First (4237604 4.78) Second (4237634 4.3) Third (4237613 -1.78) Stop 4233466 First (4233714 1.03) Second (4233708 -1.07) Third (4233516 -3.7) Stop 4229463 First (4230812 7.33) Second (4230755 -1.68) Third (4230734 -2.11) Stop 4228938 First (4229210 6.63) Second (4229060 -0.86) Third (4229180 -2.07) Stop 4227032 First (4227721 7.06) Second (4227706 0.31) Third (4227619 -3.08) Stop 4220383 First (4221207 3.02) Second (4221246 2.17) Third (4221240 1.61) Stop 4217880 First (4220066 5.59) Second (4219982 -2.2) Third (4219745 -6.13) Stop 4211259 First (4211702 9.28) Second (4211486 -1.27) Third (4211411 -3.94) Stop 4203521 First (4205110 7.21) Second (4204921 -3.65) Third (4204843 -4.19) Stop 4202220 First (4203509 7.92) Second (4203497 2.76) Third (4203281 -6.53) Stop 4198841 First (4199266 6.67) Second (4199407 6.57) Third (4199173 -2.75) Stop 4193910 First (4194386 6.91) Second (4194248 -0.42) Third (4194296 -2.68) Stop 4191782 First (4193677 4.34) Second (4193542 -7.84) Third (4193344 -8.07) Stop 4191147 First (4191782 10.09) Second (4191785 6.05) Third (4191728 -1.63) Stop 4190399 First (4191154 3.03) Second (4191136 0.0) Third (4191247 -2.09) Stop 4190215 First (4190415 6.69) Second (4190388 -1.92) Third (4190265 -4.97) Stop 4189443 First (4190213 2.75) Second (4190471 -1.33) Third (4190429 -3.4) Stop 4188313 First (4189446 -1.76) Second (4189161 -11.66) Third (4189320 -14.98) Stop 4178123 First (4178629 -1.37) Second (4178563 -3.56) Third (4178158 -17.06) Stop 4175971 First (4177284 2.71) Second (4177254 -7.56) Third (4176972 -12.49) Stop 4172792 First (4172929 3.83) Second (4172947 1.56) Third (4172875 -3.91) Stop 4171655 First (4172761 -0.14) Second (4172581 -0.72) Third (4172626 -2.71) Stop 4159749 First (4160849 5.42) Second (4160774 -1.04) Third (4160795 -2.84) Stop 4156969 First (4158369 3.88) Second (4158303 2.37) Third (4158072 -7.26) Stop 4151275 First (4152426 4.43) Second (4152447 2.54) Third (4152465 2.19) Stop 4148026 First (4150677 7.13) Second (4150638 -0.22) Third (4150599 -2.57) Stop 4146111 First (4147844 5.16) Second (4147535 -7.06) Third (4147538 -9.99) Stop 4145045 First (4145896 9.09) Second (4145761 -1.95) Third (4145806 -6.25) Stop 4137300 First (4139435 -11.79) Second (4138991 -19.15) Third (4138928 -19.64) Stop 4136626 First (4137288 7.15) Second (4137165 -2.42) Third (4137042 -4.89) Stop 4135512 First (4136615 8.59) Second (4136567 -0.56) Third (4136654 -1.08) Stop 4134620 First (4135237 3.91) Second (4134973 -6.41) Third (4135156 -6.61) Stop 4125658 First (4125975 4.81) Second (4126113 3.38) Third (4125999 -4.53) Stop 4124866 First (4125474 4.16) Second (4125321 -7.38) Third (4125270 -10.19) Stop 4122192 First (4124390 1.15) Second (4124462 -1.3) Third (4124255 -4.27) Stop 4121011 First (4122036 5.8) Second (4121946 2.99) Third (4122003 2.85) Stop 4119960 First (4120919 -2.92) Second (4120814 -5.64) Third (4120712 -5.95) Stop 4119337 First (4119867 4.23) Second (4119786 3.05) Third (4119774 -1.18) Stop 4117996 First (4119327 6.67) Second (4119318 0.27) Third (4119249 -2.53)

Stop 4117003 First (4117941 1.16) Second (4117929 0.89) Third (4117677 -4.45) Stop 4116425 First (4116910 0.63) Second (4116856 -3.21) Third (4116772 -4.33) Stop 4114825 First (4115670 5.51) Second (4115511 2.33) Third (4115652 -1.55) Stop 4113294 First (4114802 4.98) Second (4114823 0.72) Third (4114652 -2.75) Stop 4112149 First (4113288 3.01) Second (4113270 2.7) Third (4113159 0.17) Stop 4111306 First (4112052 6.67) Second (4112019 -1.7) Third (4111758 -6.31) Stop 4109195 First (4109794 5.82) Second (4109416 -4.43) Third (4109479 -5.2) Stop 4108320 First (4109087 8.03) Second (4108943 -0.53) Third (4109036 -1.25) Stop 4102553 First (4103251 10.74) Second (4103185 6.25) Third (4103170 0.41) Stop 4101183 First (4102556 0.7) Second (4102415 -0.55) Third (4102481 -1.8) Stop 4097072 First (4098106 6.93) Second (4098088 1.58) Third (4097998 1.17) Stop 4093560 First (4095029 6.57) Second (4094975 -2.3) Third (4094831 -2.89) Stop 4092304 First (4093563 5.61) Second (4093569 -0.66) Third (4093317 -3.57) Stop 4091029 First (4091853 3.7) Second (4091928 -0.52) Third (4091817 -5.88) Stop 4090705 First (4091019 9.72) Second (4090998 1.44) Third (4090782 0.97) Stop 4089958 First (4090404 7.27) Second (4090254 -2.41) Third (4090332 -5.48) Stop 4088496 First (4089947 4.74) Second (4089884 -0.8) Third (4089953 -2.08) Stop 4087436 First (4088506 5.23) Second (4088482 -1.96) Third (4088305 -2.48) Stop 4085688 First (4087436 5.04) Second (4087130 -12.29) Third (4087223 -13.21) Stop 4082815 First (4083402 7.96) Second (4083222 -1.76) Third (4083357 -3.45) Stop 4079437 First (4080339 6.97) Second (4080252 0.09) Third (4080102 -2.52) Stop 4078805 First (4079440 7.77) Second (4079302 -1.52) Third (4079335 -2.36) Stop 4077879 First (4078808 5.18) Second (4078748 -2.16) Third (4078391 -3.12) Stop 4070255 First (4071151 7.29) Second (4071118 3.97) Third (4071106 3.07) Stop 4069353 First (4070231 7.39) Second (4070180 0.13) Third (4070144 -1.24) Stop 4068095 First (4069336 8.27) Second (4069351 1.0) Third (4069201 -1.34) Stop 4067055 First (4067981 6.82) Second (4067957 1.52) Third (4067966 -3.68) Stop 4064820 First (4066856 7.07) Second (4066709 0.54) Third (4066547 -8.2) Stop 4063389 First (4064774 7.5) Second (4064795 5.83) Third (4064807 -2.1) Stop 4061889 First (4063346 9.4) Second (4063352 2.87) Third (4063208 -1.56) Stop 4061182 First (4061874 3.68) Second (4061757 1.21) Third (4061730 -0.85) Stop 4054205 First (4055614 9.29) Second (4055470 2.04) Third (4055572 -0.03) Stop 4052870 First (4053919 8.22) Second (4053859 -2.97) Third (4053724 -3.92) Stop 4051449 First (4052858 4.64) Second (4052867 3.47) Third (4052918 -1.11) Stop 4047713 First (4048345 1.6) Second (4048261 -1.05) Third (4048336 -1.8) Stop 4044302 First (4044544 8.02) Second (4044487 4.65) Third (4044520 -1.29) Stop 4043250 First (4044182 -0.05) Second (4044155 -0.96) Third (4044206 -3.7) Stop 4041035 First (4041661 -0.99) Second (4041493 -4.59) Third (4041235 -13.7) Stop 4038995 First (4039579 2.66) Second (4039570 0.6) Third (4039522 0.4) Stop 4038486 First (4039013 7.08) Second (4038998 5.33) Third (4038944 -1.99) Stop 4038058 First (4038384 -2.59) Second (4038510 -2.74) Third (4038126 -8.36) Stop 4032185 No predictions Stop 4026372 First (4028561 2.56) Second (4028639 -4.48) Third (4028687 -7.23) Stop 4025199 First (4026362 9.76) Second (4026260 -0.48) Third (4026191 -2.07) Stop 4021923 First (4022411 4.7) Second (4022297 -0.64) Third (4022336 -3.6) Stop 4012721 First (4013635 5.05) Second (4013719 0.36) Third (4013791 -0.28) Stop 4009453 First (4010406 6.91) Second (4010211 -0.39) Third (4010370 -4.09) Stop 4006046 First (4006654 -1.07) Second (4006651 -3.23) Third (4006420 -9.5) Stop 4001841 First (4002308 7.39) Second (4002260 2.78) Third (4002326 -0.58) Stop 4000900 First (4001802 -0.13) Second (4001694 -4.99) Third (4001664 -5.76) Stop 4000425 First (4000805 5.54) Second (4000841 0.87) Third (4000865 -5.51) Stop 4000031 First (4000396 7.1) Second (4000411 6.75) Third (4000252 -2.31) Stop 3998183 First (3998668 5.79) Second (3998494 0.26) Third (3998638 0.06)

Stop 3991352 Two predictions First (3991672 7.03) Second (3991405 -14.54) Stop 3987438 First (3988394 5.72) Second (3988400 4.84) Third (3988379 0.91) Stop 3986701 First (3987441 4.67) Second (3987396 3.42) Third (3987276 -1.06) Stop 3985498 First (3986679 6.33) Second (3986628 -1.1) Third (3986652 -2.02) Stop 3984299 First (3985495 8.9) Second (3985438 -0.53) Third (3985414 -0.64) Stop 3981965 First (3983620 5.94) Second (3983560 -2.74) Third (3983437 -2.99) Stop 3963370 First (3963762 4.01) Second (3963564 -10.39) Third (3963396 -13.98) Stop 3961980 First (3963245 1.08) Second (3963065 0.8) Third (3962978 -6.98) Stop 3960360 First (3961844 7.31) Second (3961853 3.01) Third (3961787 -0.22) Stop 3957627 First (3957902 1.32) Second (3957848 0.6) Third (3957701 -7.7) Stop 3957150 First (3957431 4.59) Second (3957260 0.06) Third (3957239 -6.85) Stop 3954548 First (3955510 4.32) Second (3955525 3.92) Third (3955441 0.96) Stop 3946072 First (3947592 8.72) Second (3947622 -0.53) Third (3947613 -2.76) Stop 3944752 First (3945285 3.91) Second (3945348 0.15) Third (3945135 -2.92) Stop 3938261 First (3938950 7.96) Second (3938806 -3.86) Third (3938755 -3.91) Stop 3936811 First (3938238 5.44) Second (3938187 2.74) Third (3938214 1.88) Stop 3927224 First (3928720 4.25) Second (3928669 -3.46) Third (3928504 -4.91) Stop 3925780 First (3927009 -0.27) Second (3927012 -2.47) Third (3927063 -3.79) Stop 3924173 First (3924631 5.23) Second (3924580 4.37) Third (3924496 1.83) Stop 3923640 Two predictions First (3924083 5.16) Second (3923867 -8.75) Stop 3921372 First (3923261 5.54) Second (3923195 1.5) Third (3923129 -1.4) Stop 3920685 First (3921308 1.12) Second (3921164 -5.33) Third (3921221 -5.44) Stop 3919688 First (3920068 5.22) Second (3920080 3.22) Third (3920071 2.3) Stop 3918864 First (3919679 6.23) Second (3919664 0.24) Third (3919544 -3.4) Stop 3918578 First (3918817 6.28) Second (3918802 4.79) Third (3918787 3.66) Stop 3918046 First (3918516 2.44) Second (3918429 -1.4) Third (3918453 -3.47) Stop 3917498 First (3918031 10.55) Second (3917902 -2.2) Third (3917941 -4.13) Stop 3915944 First (3917485 8.63) Second (3917332 1.85) Third (3917260 -2.99) Stop 3915030 First (3915893 8.75) Second (3915779 0.51) Third (3915824 0.36) Stop 3913621 First (3915003 5.89) Second (3914928 -4.3) Third (3914739 -5.49) Stop 3913181 First (3913600 7.88) Second (3913594 7.46) Third (3913555 3.75) Stop 3911458 First (3912726 2.15) Second (3912828 1.7) Third (3912774 1.64) Stop 3909467 First (3911296 2.78) Second (3911170 -0.9) Third (3911137 -7.52) Stop 3908113 First (3909153 8.65) Second (3909144 2.98) Third (3909087 -0.6) Stop 3907067 First (3908026 5.74) Second (3907930 -3.35) Third (3907966 -3.78) Stop 3906177 First (3907067 11.0) Second (3907061 3.75) Third (3906920 1.93) Stop 3905221 First (3905994 6.07) Second (3905988 0.71) Third (3905949 -0.68) Stop 3904481 First (3905206 5.38) Second (3905125 -0.86) Third (3905116 -4.02) Stop 3903359 First (3904117 3.68) Second (3904195 3.62) Third (3904219 1.95) Stop 3901348 First (3903225 5.21) Second (3903162 0.03) Third (3903171 -1.09) Stop 3899917 First (3901329 8.65) Second (3901200 1.18) Third (3901209 -4.14) Stop 3898232 First (3899848 6.4) Second (3899809 -1.33) Third (3899761 -3.42) Stop 3897036 First (3898205 6.29) Second (3898238 1.48) Third (3898130 1.11) Stop 3896311 First (3897021 6.55) Second (3896988 1.87) Third (3896952 -2.19) Stop 3892901 First (3894238 6.26) Second (3894187 0.85) Third (3894145 -1.37) Stop 3879954 First (3881357 0.69) Second (3881273 -2.85) Third (3881288 -3.32) Stop 3878849 First (3879949 1.13) Second (3879793 -2.77) Third (3879799 -2.8) Stop 3877776 First (3878849 3.97) Second (3878687 -5.48) Third (3878516 -7.34) Stop 3875333 First (3877747 3.36) Second (3877675 -0.98) Third (3877693 -1.13) Stop 3874695 First (3875093 3.41) Second (3875102 -3.7) Third (3874994 -5.52) Stop 3873768 First (3874580 5.14) Second (3874406 -1.29) Third (3874553 -2.16) Stop 3872401 First (3872787 5.16) Second (3872631 -1.52) Third (3872586 -3.13) Stop 3872099 First (3872395 -1.91) Second (3872227 -2.0) Third (3872245 -5.82)

Stop 3871224 First (3872102 4.81) Second (3871922 -5.99) Third (3871907 -6.06) Stop 3869477 First (3871240 9.11) Second (3871204 -2.94) Third (3870937 -4.35) Stop 3868065 First (3869357 3.9) Second (3869384 1.21) Third (3869399 -0.74) Stop 3865689 First (3866903 3.13) Second (3866936 2.31) Third (3866921 0.93) Stop 3864636 First (3865049 7.61) Second (3865055 1.12) Third (3864995 -2.05) Stop 3864096 First (3864524 5.77) Second (3864530 3.14) Third (3864497 -4.31) Stop 3862239 First (3863924 3.78) Second (3863900 2.58) Third (3863747 -2.81) Stop 3860124 First (3861491 1.75) Second (3861326 -1.03) Third (3861230 -1.73) Stop 3858976 First (3859614 8.94) Second (3859551 0.58) Third (3859599 -2.29) Stop 3856028 First (3857743 4.89) Second (3857527 -4.1) Third (3857725 -4.43) Stop 3854538 First (3856031 6.71) Second (3855980 3.69) Third (3856004 -2.36) Stop 3853587 First (3853934 8.4) Second (3853733 -0.94) Third (3853694 -4.32) Stop 3853235 First (3853597 4.69) Second (3853495 -1.14) Third (3853456 -2.53) Stop 3852741 First (3853238 2.45) Second (3853010 -6.56) Third (3852857 -7.31) Stop 3850517 First (3850615 3.5) Second (3850603 1.4) Third (3850645 -1.81) Stop 3848723 First (3850411 2.77) Second (3850321 -0.8) Third (3850171 -9.16) Stop 3848429 First (3848719 9.73) Second (3848656 2.86) Third (3848527 -2.46) Stop 3847763 First (3848353 4.97) Second (3848275 -1.51) Third (3848125 -3.36) Stop 3846261 First (3847652 0.29) Second (3847763 -0.03) Third (3847610 -1.78) Stop 3844932 First (3846251 4.66) Second (3846254 4.36) Third (3846248 2.03) Stop 3843403 First (3844794 5.88) Second (3844728 0.21) Third (3844740 -1.1) Stop 3840082 First (3841416 4.19) Second (3841428 2.74) Third (3841494 -2.37) Stop 3839577 First (3840029 6.04) Second (3840056 5.96) Third (3840017 0.69) Stop 3838176 First (3839366 -0.31) Second (3839531 -2.42) Third (3839414 -4.38) Stop 3836802 First (3837620 7.03) Second (3837578 0.06) Third (3837464 -3.41) Stop 3832174 First (3833601 5.54) Second (3833556 4.71) Third (3833613 -1.69) Stop 3829846 First (3832164 7.08) Second (3832071 1.23) Third (3832140 -0.22) Stop 3825087 First (3826292 9.73) Second (3826103 0.08) Third (3826226 -1.56) Stop 3818658 First (3818789 1.67) Second (3818921 -3.03) Third (3818762 -3.95) Stop 3817115 First (3818797 7.47) Second (3818785 1.09) Third (3818800 -0.1) Stop 3813490 First (3814176 5.82) Second (3814146 -3.87) Third (3813915 -4.71) Stop 3813461 No predictions Stop 3812754 First (3813395 8.28) Second (3813410 3.4) Third (3813347 -3.0) Stop 3809518 First (3810186 7.21) Second (3810192 -0.24) Third (3810147 -2.84) Stop 3809065 First (3809301 7.2) Second (3809265 -2.92) Third (3809136 -3.34) Stop 3808877 Two predictions First (3809044 8.96) Second (3808906 -8.44) Stop 3807970 First (3808779 4.91) Second (3808635 -4.18) Third (3808491 -4.55) Stop 3804691 First (3805761 0.47) Second (3805725 -2.5) Third (3805707 -2.74) Stop 3803570 First (3804694 4.08) Second (3804634 -0.83) Third (3804427 -3.49) Stop 3802780 First (3803577 4.66) Second (3803373 -3.88) Third (3803364 -4.2) Stop 3801808 First (3802743 1.59) Second (3802698 -2.8) Third (3802605 -3.77) Stop 3800685 First (3801719 2.49) Second (3801764 0.69) Third (3801776 0.3) Stop 3799666 First (3800685 3.68) Second (3800676 -1.08) Third (3800511 -3.18) Stop 3798610 First (3799626 1.91) Second (3799302 -5.41) Third (3799332 -8.02) Stop 3797894 First (3798592 -0.46) Second (3798565 -2.98) Third (3798508 -5.35) Stop 3796972 First (3797823 -0.85) Second (3797712 -10.31) Third (3797379 -16.57) Stop 3795866 First (3796939 -2.46) Second (3796564 -10.97) Third (3796630 -11.2) Stop 3790453 First (3791310 0.44) Second (3791325 -1.01) Third (3791163 -3.75) Stop 3788982 First (3790178 5.85) Second (3790118 -2.01) Third (3789974 -2.1) Stop 3787947 First (3788972 6.28) Second (3788930 5.76) Third (3788798 -6.49) Stop 3786674 First (3787708 4.35) Second (3787705 1.55) Third (3787636 -1.59) Stop 3782211 First (3782642 5.42) Second (3782630 4.81) Third (3782576 -1.28) Stop 3781818 First (3782069 10.29) Second (3781940 -1.89) Third (3781991 -2.22)

Stop 3781288 First (3781755 5.71) Second (3781731 -2.66) Third (3781476 -6.47) Stop 3780269 First (3781288 4.63) Second (3781267 1.78) Third (3781261 -3.37) Stop 3779368 First (3780189 7.69) Second (3780114 -0.99) Third (3780048 -1.96) Stop 3774211 First (3774585 -6.35) Second (3774459 -6.68) Third (3774465 -8.2) Stop 3769009 First (3769371 5.01) Second (3769143 -2.67) Third (3769224 -4.16) Stop 3767870 First (3769006 6.42) Second (3768889 2.25) Third (3768997 -0.73) Stop 3758974 First (3759582 2.87) Second (3759438 0.91) Third (3759366 -0.5) Stop 3757485 First (3758876 5.68) Second (3758750 -0.47) Third (3758759 -2.63) Stop 3755644 First (3757488 6.15) Second (3757383 -3.99) Third (3757287 -4.46) Stop 3754306 First (3755454 6.51) Second (3755379 -0.92) Third (3755388 -1.01) Stop 3752603 First (3754141 2.65) Second (3754231 -3.82) Third (3754279 -5.83) Stop 3751735 First (3752058 7.37) Second (3751830 -2.56) Third (3752088 -2.79) Stop 3750593 First (3751729 3.41) Second (3751711 -1.89) Third (3751591 -2.81) Stop 3748758 First (3749498 4.54) Second (3749453 0.0) Third (3749477 -1.09) Stop 3739313 First (3740161 5.12) Second (3740146 4.55) Third (3740125 2.36) Stop 3738738 First (3739211 8.36) Second (3739217 -0.75) Third (3739109 -3.29) Stop 3733982 First (3734806 6.9) Second (3734764 3.6) Third (3734800 2.08) Stop 3727072 First (3728394 4.87) Second (3728283 -0.05) Third (3728220 -1.35) Stop 3725546 First (3727000 7.7) Second (3726934 0.08) Third (3726835 -0.97) Stop 3725036 First (3725377 4.89) Second (3725389 -1.88) Third (3725359 -4.23) Stop 3724553 First (3724990 5.32) Second (3724993 1.25) Third (3724885 0.25) Stop 3723042 First (3723341 0.23) Second (3723335 -0.1) Third (3723338 -0.87) Stop 3722036 First (3722821 1.65) Second (3722788 0.92) Third (3722947 0.04) Stop 3719957 First (3722026 5.81) Second (3722005 0.39) Third (3721627 -9.07) Stop 3718077 First (3718229 6.47) Second (3718163 -6.32) Third (3718196 -7.06) Stop 3715963 First (3716673 5.56) Second (3716793 -1.39) Third (3716733 -1.46) Stop 3711690 First (3714023 3.11) Second (3713969 -0.5) Third (3713909 -1.91) Stop 3709865 First (3710563 5.42) Second (3710512 -3.17) Third (3710569 -4.54) Stop 3708428 First (3709636 3.4) Second (3709681 -7.89) Third (3709399 -8.09) Stop 3706413 First (3708104 3.07) Second (3708137 -1.59) Third (3708062 -2.98) Stop 3703727 First (3705334 7.08) Second (3705307 -1.2) Third (3705322 -3.19) Stop 3702400 First (3703419 2.14) Second (3703416 0.78) Third (3703314 -0.51) Stop 3701488 First (3702390 9.08) Second (3702366 1.72) Third (3702162 -1.91) Stop 3700494 First (3701477 6.28) Second (3701447 -0.69) Third (3701375 -1.08) Stop 3699493 First (3700497 9.85) Second (3700416 0.35) Third (3700428 -2.98) Stop 3693626 First (3693814 8.22) Second (3693748 -1.14) Third (3693682 -8.74) Stop 3692862 First (3693578 4.36) Second (3693590 2.57) Third (3693512 1.99) Stop 3690247 First (3692865 6.31) Second (3692913 -3.18) Third (3692745 -7.01) Stop 3687897 First (3690236 -0.9) Second (3690200 -0.98) Third (3690206 -2.02) Stop 3686784 First (3687890 5.43) Second (3687896 2.28) Third (3687710 1.0) Stop 3683330 First (3686830 - 3.24) Second (3686875 - 3.47) Third (3686665 - 5.55) Stop 3681260 First (3683248 5.79) Second (3683215 -0.16) Third (3683209 -2.9) Stop 3679791 First (3681077 4.83) Second (3680978 0.83) Third (3680939 0.43) Stop 3678074 First (3679570 7.32) Second (3679525 1.51) Third (3679528 -0.06) Stop 3676050 First (3676817 4.64) Second (3676685 0.13) Third (3676664 -0.85) Stop 3673920 First (3675995 6.89) Second (3675980 6.66) Third (3675929 0.07) Stop 3668922 First (3669524 6.98) Second (3669374 -1.2) Third (3669512 -1.74) Stop 3665421 First (3666818 5.85) Second (3666812 2.88) Third (3666743 -1.53) Stop 3663810 First (3665210 7.53) Second (3665273 -1.97) Third (3665240 -4.06) Stop 3662616 First (3663440 3.13) Second (3663380 -0.93) Third (3663248 -6.82) Stop 3661520 First (3662248 7.51) Second (3662140 -0.31) Third (3662230 -3.83) Stop 3654038 First (3654370 6.41) Second (3654238 -5.0) Third (3654319 -6.78) Stop 3653596 First (3653922 3.99) Second (3653886 0.67) Third (3653934 -0.09)

Stop 3652885 First (3653460 1.87) Second (3653397 1.56) Third (3653472 -2.43) Stop 3649812 First (3650792 4.16) Second (3650828 1.56) Third (3650615 -1.6) Stop 3640770 First (3642812 2.89) Second (3642851 -4.2) Third (3642725 -6.42) Stop 3640010 First (3640762 1.78) Second (3640804 -0.92) Third (3640666 -2.13) Stop 3637015 First (3637350 9.06) Second (3637296 -2.13) Third (3637260 -6.35) Stop 3633838 First (3635040 5.56) Second (3634911 1.59) Third (3634995 -2.16) Stop 3630850 First (3632088 0.52) Second (3632124 -4.28) Third (3631857 -6.13) Stop 3630482 First (3630853 2.11) Second (3630790 -0.42) Third (3630874 -5.51) Stop 3628598 First (3630220 5.61) Second (3630067 -3.14) Third (3630205 -3.39) Stop 3627165 First (3628232 4.06) Second (3628181 -0.37) Third (3628001 -4.65) Stop 3624434 First (3626944 -1.76) Second (3626962 -2.91) Third (3627052 -3.98) Stop 3623310 First (3624434 6.24) Second (3624518 1.75) Third (3624437 -0.69) Stop 3614579 First (3615202 -2.89) Second (3615343 -4.46) Third (3615181 -8.13) Stop 3608147 First (3609397 1.76) Second (3609364 -0.15) Third (3609376 -1.71) Stop 3606382 First (3606627 5.55) Second (3606453 -0.74) Third (3606555 -1.75) Stop 3602882 First (3603241 9.3) Second (3603172 0.48) Third (3603139 0.03) Stop 3600381 First (3601874 9.11) Second (3601742 -3.25) Third (3601562 -8.93) Stop 3599710 First (3600378 7.79) Second (3600306 2.22) Third (3600291 1.04) Stop 3598659 First (3599717 5.68) Second (3599732 1.63) Third (3599744 -1.77) Stop 3597560 First (3598414 7.21) Second (3598402 2.56) Third (3598156 -2.46) Stop 3596186 First (3597289 4.74) Second (3597304 0.9) Third (3597190 -1.39) Stop 3594082 First (3595191 4.19) Second (3595197 1.55) Third (3595062 -0.51) Stop 3593108 First (3594034 6.48) Second (3593893 5.03) Third (3594019 0.34) Stop 3591834 First (3593111 7.96) Second (3593042 1.5) Third (3593102 0.63) Stop 3591070 First (3591837 3.98) Second (3591801 -4.75) Third (3591804 -6.13) Stop 3590355 First (3591068 7.59) Second (3591056 3.99) Third (3591053 0.13) Stop 3588640 First (3589956 6.07) Second (3589905 3.31) Third (3589887 -0.46) Stop 3587655 First (3588542 5.81) Second (3588434 -5.14) Third (3588242 -5.33) Stop 3586813 First (3587658 4.96) Second (3587595 -1.22) Third (3587616 -4.15) Stop 3585741 First (3586811 5.72) Second (3586850 -2.46) Third (3586823 -3.0) Stop 3585001 First (3585744 6.13) Second (3585636 -2.6) Third (3585510 -3.93) Stop 3582712 First (3584454 6.91) Second (3584481 -0.39) Third (3584295 -3.59) Stop 3577399 First (3578436 6.02) Second (3578163 -7.55) Third (3577992 -9.46) Stop 3576581 First (3577276 7.64) Second (3577042 -3.34) Third (3577000 -5.42) Stop 3575416 First (3576300 0.99) Second (3576357 -1.98) Third (3576309 -4.93) Stop 3574697 First (3575224 3.53) Second (3575245 -1.09) Third (3575074 -3.25) Stop 3573695 First (3574693 3.41) Second (3574618 1.81) Third (3574522 0.67) Stop 3571408 First (3572634 3.75) Second (3572511 3.36) Third (3572619 -3.59) Stop 3568949 First (3571135 6.13) Second (3571111 -2.44) Third (3571057 -4.39) Stop 3566979 First (3568952 7.98) Second (3568808 -5.97) Third (3568751 -9.57) Stop 3565666 First (3566961 7.41) Second (3566997 -0.63) Third (3566931 -1.34) Stop 3564233 First (3565666 7.95) Second (3565639 -1.58) Third (3565309 -3.7) Stop 3561767 First (3564214 6.12) Second (3563986 -2.52) Third (3564139 -4.2) Stop 3561357 First (3561638 5.99) Second (3561650 0.15) Third (3561602 -0.41) Stop 3559130 First (3559456 0.74) Second (3559357 0.08) Third (3559303 -0.73) Stop 3558255 First (3559028 1.47) Second (3559085 0.91) Third (3559079 -2.23) Stop 3557480 First (3558238 9.12) Second (3557986 -9.39) Third (3557851 -9.87) Stop 3554485 First (3555711 4.93) Second (3555669 -0.69) Third (3555654 -2.15) Stop 3554044 First (3554481 7.45) Second (3554484 5.97) Third (3554472 2.27) Stop 3553466 First (3553984 0.47) Second (3553912 -0.01) Third (3553918 -0.54) Stop 3547713 First (3550106 4.29) Second (3550019 -1.66) Third (3549908 -3.38) Stop 3545619 First (3547703 6.76) Second (3547508 -3.88) Third (3547583 -4.04) Stop 3541710 First (3542480 4.41) Second (3542432 0.53) Third (3542399 -0.68)

Stop 3534312 First (3534752 - 3.73) Second (3534497 - 10.91) Third (3534401 - 11.0) Stop 3533503 First (3534222 8.79) Second (3534054 1.29) Third (3534198 -1.15) Stop 3532154 First (3533506 4.02) Second (3533497 -1.98) Third (3533299 -2.32) Stop 3528353 First (3530077 5.56) Second (3529948 -2.99) Third (3529861 -4.31) Stop 3523227 First (3523787 1.46) Second (3523637 0.36) Third (3523685 -1.45) Stop 3519610 First (3520389 9.09) Second (3520416 -2.28) Third (3520299 -4.73) Stop 3519071 First (3519610 3.25) Second (3519589 -2.67) Third (3519538 -6.66) Stop 3518647 First (3519087 6.27) Second (3519081 3.75) Third (3519012 0.58) Stop 3518253 First (3518657 3.52) Second (3518693 2.59) Third (3518639 -0.49) Stop 3517103 First (3518341 8.87) Second (3518263 -3.12) Third (3518272 -3.2) Stop 3516181 First (3516702 -2.6) Second (3516858 -3.5) Third (3516903 -5.46) Stop 3515036 First (3516124 2.98) Second (3516013 -1.39) Third (3516010 -5.16) Stop 3513658 First (3514944 7.8) Second (3514710 -6.82) Third (3514635 -9.85) Stop 3512715 First (3513551 1.41) Second (3513431 -3.16) Third (3513530 -3.6) Stop 3512020 First (3512697 5.73) Second (3512685 -0.96) Third (3512586 -4.51) Stop 3511269 First (3512027 6.11) Second (3511937 -1.91) Third (3511802 -3.39) Stop 3510272 First (3511276 6.73) Second (3511186 2.83) Third (3511231 -0.97) Stop 3509077 First (3509898 -6.29) Second (3509721 -6.93) Third (3509835 -8.42) Stop 3508698 First (3509060 5.27) Second (3509102 1.43) Third (3508994 0.8) Stop 3507451 First (3508614 6.57) Second (3508512 -1.25) Third (3508341 -2.29) Stop 3506225 First (3507451 7.39) Second (3507403 1.11) Third (3507262 -1.63) Stop 3505350 First (3506228 5.79) Second (3506099 0.78) Third (3506153 -3.67) Stop 3504986 First (3505339 6.32) Second (3505378 0.94) Third (3505228 -0.36) Stop 3503670 First (3504974 4.56) Second (3504845 2.26) Third (3504929 -1.64) Stop 3502573 First (3503658 2.6) Second (3503595 -8.8) Third (3503328 -9.53) Stop 3489362 First (3489934 8.27) Second (3489841 -1.81) Third (3489868 -2.57) Stop 3489090 Two predictions First (3489257 6.74) Second (3489164 0.64) Stop 3488498 First (3489100 9.57) Second (3489043 2.18) Third (3488986 0.98) Stop 3487903 First (3488466 3.0) Second (3488391 -0.84) Third (3488367 -6.76) Stop 3486597 First (3487817 4.65) Second (3487772 -4.35) Third (3487505 -8.44) Stop 3483051 First (3483455 8.05) Second (3483332 0.4) Third (3483383 -0.29) Stop 3478244 First (3478795 7.16) Second (3478798 1.69) Third (3478738 -1.81) Stop 3476439 First (3478244 7.42) Second (3478139 -2.61) Third (3477926 -4.66) Stop 3475544 First (3476134 7.39) Second (3476113 -3.12) Third (3476053 -3.52) Stop 3474244 First (3475056 5.54) Second (3474879 0.05) Third (3475017 -2.24) Stop 3473355 First (3474077 9.07) Second (3473957 1.29) Third (3474089 0.92) Stop 3472969 First (3473355 7.84) Second (3473340 -5.52) Third (3473337 -6.33) Stop 3472610 First (3472969 4.88) Second (3472804 -8.65) Third (3472768 -9.01) Stop 3472315 First (3472602 4.45) Second (3472515 -3.03) Third (3472326 -5.15) Stop 3471815 First (3472189 6.56) Second (3472129 -4.94) Third (3471955 -4.97) Stop 3471179 First (3471718 7.21) Second (3471628 0.11) Third (3471418 -6.69) Stop 3469110 No predictions Stop 3469037 First (3471151 7.5) Second (3470995 -0.65) Third (3471004 -3.37) Stop 3467782 First (3468966 3.73) Second (3469011 -1.55) Third (3468693 -6.62) Stop 3464797 First (3467490 6.37) Second (3467463 0.54) Third (3467454 -1.06) Stop 3464434 First (3464628 7.66) Second (3464466 3.85) Third (3464481 -1.9) Stop 3463886 First (3464362 8.21) Second (3464209 -3.58) Third (3464272 -4.54) Stop 3451566 First (3453035 5.75) Second (3453002 -3.32) Third (3452786 -4.21) Stop 3451145 First (3451564 7.06) Second (3451399 -4.42) Third (3451432 -5.64) Stop 3450596 First (3450907 6.06) Second (3450646 -5.48) Third (3450697 -11.14) Stop 3449934 First (3450563 6.11) Second (3450533 1.52) Third (3450539 -1.7) Stop 3449318 First (3449923 9.42) Second (3449911 0.79) Third (3449626 -5.31) Stop 3449019 First (3449321 8.12) Second (3449252 0.3) Third (3449294 -4.01)

Stop 3448180 First (3449001 9.9) Second (3448947 -1.74) Third (3448608 -7.62) Stop 3447885 First (3448163 7.28) Second (3448097 0.27) Third (3447968 -3.22) Stop 3447538 First (3447870 10.14) Second (3447765 -1.32) Third (3447627 -2.44) Stop 3446819 First (3447520 3.07) Second (3447136 -10.11) Third (3447121 -15.66) Stop 3446396 First (3446806 8.79) Second (3446773 0.01) Third (3446650 -4.1) Stop 3446205 First (3446396 2.46) Second (3446309 -4.13) Third (3446261 -4.9) Stop 3445951 First (3446205 2.71) Second (3446157 0.57) Third (3446121 -5.11) Stop 3445415 First (3445786 7.39) Second (3445768 1.11) Third (3445729 -2.4) Stop 3445090 Two predictions First (3445404 8.42) Second (3445368 -1.5) Stop 3444536 First (3445075 6.32) Second (3445027 1.02) Third (3445000 -0.96) Stop 3444216 First (3444521 6.55) Second (3444506 4.19) Third (3444422 -3.44) Stop 3443790 First (3444182 8.89) Second (3444176 1.55) Third (3444104 -0.13) Stop 3443244 First (3443777 10.1) Second (3443555 -4.13) Third (3443474 -6.1) Stop 3442881 First (3443234 7.03) Second (3443156 -1.72) Third (3443015 -7.9) Stop 3442363 First (3442866 7.05) Second (3442581 -3.5) Third (3442656 -3.55) Stop 3442180 First (3442359 7.55) Second (3442200 -4.97) Third (3442221 -5.15) Stop 3441742 First (3442176 10.01) Second (3442014 2.53) Third (3441849 -7.47) Stop 3440403 First (3441734 7.55) Second (3441548 -0.15) Third (3441539 -1.13) Stop 3440255 Two predictions First (3440371 6.83) Second (3440299 -6.26) Stop 3439752 First (3440108 5.01) Second (3439868 -3.4) Third (3439886 -3.73) Stop 3439346 First (3439735 5.82) Second (3439483 -1.81) Third (3439612 -1.87) Stop 3438692 First (3439312 6.96) Second (3439300 -1.63) Third (3439156 -7.05) Stop 3437677 First (3438666 6.45) Second (3438654 1.97) Third (3438612 -2.72) Stop 3437253 First (3437636 6.51) Second (3437567 0.31) Third (3437579 -3.3) Stop 3436778 First (3437146 6.81) Second (3437056 -3.76) Third (3437032 -3.88) Stop 3436342 First (3436767 4.02) Second (3436740 2.06) Third (3436677 -1.77) Stop 3436068 Two predictions First (3436286 7.39) Second (3436169 3.56) Stop 3430436 First (3431197 7.57) Second (3431167 -1.23) Third (3431152 -2.29) Stop 3429629 First (3430102 10.14) Second (3429922 -0.58) Third (3430087 -0.73) Stop 3429057 First (3429566 -1.51) Second (3429362 -2.37) Third (3429605 -2.99) Stop 3428480 First (3429052 1.67) Second (3429097 1.57) Third (3429082 -1.09) Stop 3427657 First (3428475 7.71) Second (3428298 -3.12) Third (3428502 -4.46) Stop 3427403 First (3427660 4.73) Second (3427576 -2.43) Third (3427585 -6.94) Stop 3412323 First (3412592 -1.5) Second (3412676 -1.86) Third (3412571 -4.69) Stop 3410440 First (3411102 2.71) Second (3410919 -3.42) Third (3410874 -5.01) Stop 3402153 First (3402215 -2.09) Second (3402254 -2.39) Third (3402221 -3.02) Stop 3399029 First (3400969 6.15) Second (3400909 0.56) Third (3400810 -6.34) Stop 3397681 First (3398724 1.02) Second (3398703 -3.23) Third (3398628 -3.98) Stop 3396512 First (3397615 4.58) Second (3397492 -1.58) Third (3397261 -5.21) Stop 3396024 First (3396512 6.39) Second (3396440 -3.07) Third (3396329 -3.55) Stop 3395422 First (3396015 4.59) Second (3396075 1.23) Third (3395820 -7.08) Stop 3393963 First (3395432 7.03) Second (3395387 -0.69) Third (3395450 -2.48) Stop 3393047 First (3393895 4.39) Second (3393847 0.7) Third (3393886 0.23) Stop 3390094 First (3392979 0.69) Second (3393084 -2.34) Third (3392949 -5.15) Stop 3388218 First (3389663 4.53) Second (3389636 -0.07) Third (3389603 -4.05) Stop 3386769 First (3386972 2.68) Second (3387041 -1.58) Third (3386867 -2.94) Stop 3385829 First (3386761 2.56) Second (3386581 -4.36) Third (3386557 -7.33) Stop 3383856 First (3385823 2.4) Second (3385562 -6.67) Third (3385541 -9.16) Stop 3383492 First (3383638 2.18) Second (3383764 -0.18) Third (3383515 -6.46) Stop 3380965 First (3381903 7.98) Second (3381969 -1.9) Third (3381792 -6.09) Stop 3376505 First (3377632 3.43) Second (3377476 -1.95) Third (3377371 -2.92) Stop 3375858 First (3376286 3.79) Second (3376361 -1.41) Third (3376301 -2.55) Stop 3375450 First (3375842 7.12) Second (3375674 -0.04) Third (3375707 -2.16)

Stop 3374417 First (3375055 9.21) Second (3374830 -0.52) Third (3375025 -1.83) Stop 3373914 First (3374411 7.09) Second (3374285 0.61) Third (3374405 -3.95) Stop 3371333 First (3372115 4.19) Second (3372124 2.44) Third (3371998 0.81) Stop 3370318 First (3371211 7.99) Second (3371187 -2.32) Third (3371082 -7.11) Stop 3368719 First (3370209 7.01) Second (3370047 -4.93) Third (3369948 -5.09) Stop 3367982 First (3368671 4.22) Second (3368713 -2.21) Third (3368560 -8.54) Stop 3367110 First (3367985 2.26) Second (3368024 0.21) Third (3368018 0.05) Stop 3366649 First (3367113 7.64) Second (3367110 5.69) Third (3367107 5.13) Stop 3363337 First (3364317 4.94) Second (3364353 1.56) Third (3364140 -1.6) Stop 3350756 First (3351661 1.72) Second (3351622 -0.22) Third (3351685 -0.42) Stop 3348330 First (3350660 7.46) Second (3350615 -0.7) Third (3350600 -0.86) Stop 3347447 First (3348100 6.72) Second (3348109 -1.16) Third (3347932 -4.31) Stop 3346722 First (3347354 1.13) Second (3347246 -0.41) Third (3347450 -0.5) Stop 3336897 First (3337706 7.79) Second (3337694 3.15) Third (3337676 1.56) Stop 3336107 First (3336889 4.33) Second (3336814 0.81) Third (3336712 -5.83) Stop 3335551 First (3336102 5.74) Second (3336012 -1.48) Third (3336075 -2.27) Stop 3334897 First (3335532 6.92) Second (3335514 0.95) Third (3335517 0.52) Stop 3334604 First (3334897 2.43) Second (3334876 -1.21) Third (3334657 -2.89) Stop 3334190 First (3334444 1.96) Second (3334414 1.79) Third (3334459 -0.58) Stop 3332876 First (3334135 5.68) Second (3333976 -1.82) Third (3333868 -5.57) Stop 3330781 First (3331092 7.85) Second (3331116 -0.71) Third (3330975 -1.78) Stop 3330503 Two predictions First (3330760 9.63) Second (3330562 -6.91) Stop 3329411 First (3330376 6.23) Second (3330301 -0.14) Third (3330280 -1.24) Stop 3328223 First (3329395 8.22) Second (3329257 -3.27) Third (3329335 -4.34) Stop 3325880 First (3326356 8.65) Second (3326341 3.0) Third (3326287 0.26) Stop 3324676 First (3325305 8.18) Second (3325149 -2.76) Third (3324942 -6.31) Stop 3322642 First (3324576 3.43) Second (3324585 3.1) Third (3324531 -3.34) Stop 3321704 First (3322552 5.31) Second (3322618 -1.77) Third (3322501 -1.82) Stop 3320374 First (3321711 5.52) Second (3321606 -3.69) Third (3321636 -3.74) Stop 3319814 First (3320146 3.19) Second (3320059 0.49) Third (3320152 -0.35) Stop 3317629 First (3319254 4.37) Second (3319146 2.51) Third (3319278 -3.23) Stop 3315195 First (3315647 2.33) Second (3315617 -0.13) Third (3315659 -5.51) Stop 3313680 First (3315167 5.42) Second (3315152 -0.72) Third (3315089 -3.63) Stop 3310983 First (3313655 5.58) Second (3313607 -1.79) Third (3313523 -3.11) Stop 3310418 First (3310819 9.12) Second (3310777 -1.04) Third (3310717 -1.27) Stop 3309474 First (3310418 11.2) Second (3310352 2.07) Third (3310325 -4.34) Stop 3309056 Two predictions First (3309325 6.63) Second (3309151 -10.26) Stop 3306674 First (3308809 0.29) Second (3308878 -0.73) Third (3308896 -0.9) Stop 3305681 First (3306565 6.97) Second (3306553 -0.34) Third (3306427 -2.87) Stop 3303612 First (3305501 4.48) Second (3305552 1.42) Third (3305549 1.38) Stop 3302214 First (3303458 5.17) Second (3303359 -2.47) Third (3303326 -5.22) Stop 3298393 First (3298917 4.45) Second (3298914 2.78) Third (3298938 1.57) Stop 3297896 First (3298399 4.68) Second (3298180 -3.1) Third (3298231 -3.74) Stop 3297113 First (3297556 4.73) Second (3297421 -5.63) Third (3297151 -6.69) Stop 3295852 First (3296487 6.33) Second (3296532 1.53) Third (3296367 -0.12) Stop 3294739 First (3295779 3.62) Second (3295569 -3.04) Third (3295686 -6.81) Stop 3290116 First (3290976 4.3) Second (3290793 -5.0) Third (3290628 -8.64) Stop 3275497 First (3276306 6.65) Second (3276273 -0.08) Third (3276213 -1.52) Stop 3271214 First (3272548 8.36) Second (3272386 -1.26) Third (3272512 -1.62) Stop 3270428 First (3271198 6.26) Second (3271087 -4.66) Third (3271012 -4.77) Stop 3269508 First (3270350 3.52) Second (3270362 3.31) Third (3270398 3.15) Stop 3268266 First (3269411 2.43) Second (3269492 0.06) Third (3269258 -1.65) Stop 3263768 First (3264706 4.09) Second (3264436 -3.11) Third (3264544 -4.53)
Stop 3262680 First (3263669 4.52) Second (3263582 -0.29) Third (3263519 -4.1) Stop 3261327 First (3262658 7.39) Second (3262577 -1.01) Third (3262496 -5.13) Stop 3260093 First (3261301 5.58) Second (3261313 1.9) Third (3261211 0.5) Stop 3257819 First (3260059 4.98) Second (3259873 2.07) Third (3259696 -9.47) Stop 3257363 First (3257752 6.64) Second (3257800 1.37) Third (3257677 -0.56) Stop 3256875 First (3257291 4.24) Second (3257225 -0.39) Third (3257156 -3.46) Stop 3255928 First (3256755 0.14) Second (3256497 -6.47) Third (3256716 -7.36) Stop 3254320 First (3255525 3.53) Second (3255588 1.72) Third (3255513 0.94) Stop 3253729 First (3254292 8.54) Second (3254115 -0.8) Third (3254073 -5.28) Stop 3252981 First (3253448 -1.24) Second (3253637 -1.87) Third (3253286 -6.44) Stop 3250958 First (3251854 3.08) Second (3251812 1.16) Third (3251644 -1.97) Stop 3240969 First (3242381 5.52) Second (3242444 0.57) Third (3242369 -0.5) Stop 3239467 First (3240954 4.1) Second (3240900 -3.88) Third (3240567 -10.45) Stop 3238833 First (3239384 9.15) Second (3239033 -4.19) Third (3238934 -6.51) Stop 3234571 First (3234852 1.91) Second (3234729 -2.46) Third (3234621 -4.02) Stop 3232380 First (3233516 4.12) Second (3233546 0.63) Third (3233414 -5.6) Stop 3231782 First (3232096 3.7) Second (3232027 -1.89) Third (3232072 -2.48) Stop 3231369 First (3231785 11.19) Second (3231737 -0.41) Third (3231569 -1.4) Stop 3218556 First (3218888 10.35) Second (3218831 1.15) Third (3218879 0.37) Stop 3215197 First (3216717 4.88) Second (3216657 2.03) Third (3216555 -1.57) Stop 3213368 First (3214132 5.55) Second (3214069 -3.08) Third (3213937 -7.25) Stop 3212608 First (3213114 10.53) Second (3213099 4.81) Third (3213078 1.29) Stop 3207171 First (3208184 7.46) Second (3208082 -1.27) Third (3208115 -2.96) Stop 3202965 First (3203897 4.6) Second (3203867 -2.57) Third (3203609 -6.35) Stop 3201862 First (3202230 2.72) Second (3202131 -1.17) Third (3202233 -1.72) Stop 3200951 First (3201772 7.69) Second (3201763 3.34) Third (3201775 2.82) Stop 3197305 First (3198606 4.21) Second (3198450 0.55) Third (3198405 -2.6) Stop 3194442 First (3197450 5.87) Second (3197282 2.46) Third (3197354 -0.75) Stop 3192961 First (3194394 7.45) Second (3194352 2.2) Third (3194355 -0.46) Stop 3189755 First (3189955 7.74) Second (3189961 1.07) Third (3189895 -1.13) Stop 3181829 First (3182482 6.73) Second (3182356 1.45) Third (3182395 0.92) Stop 3179635 First (3180450 5.96) Second (3180423 4.91) Third (3180249 -0.44) Stop 3175297 First (3175926 6.99) Second (3175782 -4.18) Third (3175614 -4.23) Stop 3174874 First (3175296 6.35) Second (3175263 0.88) Third (3175071 0.09) Stop 3174022 First (3174849 3.25) Second (3174717 -1.59) Third (3174459 -9.41) Stop 3173441 First (3174022 4.85) Second (3173920 -2.45) Third (3173962 -4.73) Stop 3171520 First (3173412 2.98) Second (3173193 -2.78) Third (3173250 -3.4) Stop 3170528 First (3171001 1.53) Second (3171106 -1.08) Third (3171013 -7.91) Stop 3169895 First (3170227 4.57) Second (3170179 0.45) Third (3170125 0.31) Stop 3167300 First (3167692 7.26) Second (3167734 2.4) Third (3167662 -0.43) Stop 3166765 First (3167247 9.19) Second (3167133 -4.72) Third (3167163 -5.92) Stop 3166264 First (3166560 9.92) Second (3166437 0.32) Third (3166452 -2.94) Stop 3165867 First (3166262 10.3) Second (3166232 4.79) Third (3166130 -0.3) Stop 3164127 First (3165734 5.61) Second (3165527 -3.81) Third (3165797 -4.36) Stop 3161731 First (3163989 8.42) Second (3163980 3.26) Third (3163923 0.32) Stop 3160760 First (3161497 6.35) Second (3161395 -5.52) Third (3161377 -5.55) Stop 3159273 First (3160685 7.69) Second (3160538 0.08) Third (3160349 -6.87) Stop 3158185 First (3159162 4.6) Second (3159054 -2.34) Third (3158976 -4.03) Stop 3156944 First (3158185 -2.42) Second (3158119 -4.14) Third (3158161 -5.06) Stop 3152276 First (3153343 2.32) Second (3153391 -1.45) Third (3153232 -1.51) Stop 3149992 First (3150141 -5.73) Second (3150024 -6.36) Third (3150147 -7.56) Stop 3149265 First (3149984 5.88) Second (3149999 3.95) Third (3149921 -0.5) Stop 3148833 First (3149258 6.78) Second (3149216 0.34) Third (3149252 0.26)

Stop 3146992 First (3147486 3.35) Second (3147462 -0.69) Third (3147189 -4.6) Stop 3145281 First (3145706 4.99) Second (3145673 1.66) Third (3145634 -0.73) Stop 3144871 First (3145281 1.85) Second (3145251 1.71) Third (3145221 0.21) Stop 3144465 First (3144752 6.69) Second (3144725 5.25) Third (3144545 0.28) Stop 3143158 First (3144276 6.7) Second (3144222 1.41) Third (3144162 -1.24) Stop 3142169 First (3143155 5.8) Second (3143038 -0.31) Third (3143035 -4.01) Stop 3141001 First (3142179 7.7) Second (3142098 -1.46) Third (3142128 -1.55) Stop 3139301 First (3141004 5.94) Second (3140896 0.86) Third (3140872 -1.63) Stop 3138807 First (3139301 5.95) Second (3139268 -0.09) Third (3139148 -0.93) Stop 3138326 First (3138814 8.57) Second (3138889 -1.44) Third (3138877 -3.4) Stop 3137992 First (3138333 6.13) Second (3138387 -3.76) Third (3138249 -5.69) Stop 3137731 First (3137979 8.63) Second (3137811 -1.25) Third (3137955 -2.96) Stop 3134678 First (3136537 3.86) Second (3136540 0.62) Third (3136492 0.57) Stop 3132887 First (3134386 3.78) Second (3134338 0.08) Third (3134344 -1.16) Stop 3131259 First (3131972 1.28) Second (3131957 0.68) Third (3131849 -3.55) Stop 3130469 First (3131227 6.39) Second (3131152 -0.31) Third (3131104 -5.3) Stop 3129356 First (3130423 1.82) Second (3130273 0.57) Third (3130333 -2.63) Stop 3127058 First (3128227 2.62) Second (3128194 1.45) Third (3128230 1.36) Stop 3124537 First (3126036 1.1) Second (3126027 -2.24) Third (3125970 -4.06) Stop 3122252 First (3124537 6.78) Second (3124495 -1.85) Third (3124288 -2.6) Stop 3121843 First (3122247 8.85) Second (3122217 0.45) Third (3122016 -2.19) Stop 3119650 First (3121821 11.53) Second (3121764 -1.11) Third (3121548 -5.96) Stop 3117613 First (3119295 4.16) Second (3119277 2.78) Third (3119271 2.34) Stop 3115101 First (3117128 -1.43) Second (3117146 -4.39) Third (3117083 -5.3) Stop 3112567 First (3115113 -0.28) Second (3114942 -1.22) Third (3115080 -1.24) Stop 3111560 First (3112447 0.2) Second (3112492 -0.09) Third (3112222 -2.28) Stop 3111084 First (3111494 5.37) Second (3111479 2.51) Third (3111452 -2.26) Stop 3110071 First (3111066 0.6) Second (3110925 -1.68) Third (3110901 -4.93) Stop 3109145 First (3109987 -4.59) Second (3109921 -4.61) Third (3109900 -8.19) Stop 3108607 First (3109143 10.28) Second (3108933 -1.22) Third (3109029 -1.51) Stop 3105038 First (3107173 1.51) Second (3107233 1.09) Third (3107164 0.1) Stop 3102060 First (3102512 0.5) Second (3102494 -2.26) Third (3102353 -2.49) Stop 3100151 First (3100870 2.7) Second (3100636 -1.66) Third (3100801 -1.78) Stop 3099825 First (3100151 6.75) Second (3100115 0.75) Third (3100079 -0.2) Stop 3098923 First (3099639 6.75) Second (3099642 5.83) Third (3099630 0.07) Stop 3097701 First (3098747 8.5) Second (3098708 -2.24) Third (3098522 -5.01) Stop 3096577 First (3097584 3.79) Second (3097542 -3.55) Third (3097548 -4.15) Stop 3092119 First (3093099 5.78) Second (3093093 2.6) Third (3093081 0.34) Stop 3084418 First (3084669 2.49) Second (3084585 2.37) Third (3084684 -1.77) Stop 3083939 First (3084070 0.29) Second (3084085 -3.74) Third (3084046 -9.06) Stop 3081954 First (3083852 6.62) Second (3083930 6.28) Third (3083828 0.44) Stop 3080896 First (3081816 6.45) Second (3081582 -1.75) Third (3081699 -2.6) Stop 3077663 First (3079654 6.16) Second (3079564 0.14) Third (3079684 -1.42) Stop 3076906 First (3077349 9.71) Second (3077265 0.16) Third (3077157 -2.54) Stop 3075490 First (3076878 7.53) Second (3076830 2.76) Third (3076821 2.5) Stop 3075119 First (3075475 7.68) Second (3075385 -3.15) Third (3075247 -4.55) Stop 3074199 First (3075200 -1.03) Second (3075122 -1.52) Third (3074969 -2.98) Stop 3073237 First (3074199 8.35) Second (3074202 7.46) Third (3074154 -1.6) Stop 3072706 First (3073215 4.54) Second (3073149 -0.99) Third (3072978 -1.39) Stop 3071996 First (3072709 2.37) Second (3072691 -2.15) Third (3072619 -6.17) Stop 3070692 First (3071711 5.66) Second (3071663 -1.58) Third (3071582 -2.41) Stop 3069479 First (3070642 5.29) Second (3070627 0.54) Third (3070480 -2.32) Stop 3068185 First (3069264 4.23) Second (3069348 3.73) Third (3069339 0.64)

Stop 3066967 First (3067827 6.73) Second (3067818 0.7) Third (3067689 -2.13) Stop 3066193 First (3066786 3.53) Second (3066828 2.05) Third (3066717 -3.22) Stop 3065360 First (3066100 3.94) Second (3066052 3.39) Third (3066067 -0.34) Stop 3064297 First (3065193 5.43) Second (3065208 2.71) Third (3065169 -2.58) Stop 3057401 First (3057631 4.9) Second (3057463 0.11) Third (3057598 -4.08) Stop 3056686 First (3057345 2.55) Second (3057381 0.54) Third (3057330 -0.07) Stop 3055198 First (3056430 5.82) Second (3056376 -3.05) Third (3056226 -7.04) Stop 3052886 First (3053470 1.22) Second (3053464 0.27) Third (3053254 -1.31) Stop 3051535 First (3052860 2.96) Second (3053004 -1.11) Third (3053073 -3.05) Stop 3050360 First (3051538 3.29) Second (3051448 -5.14) Third (3051511 -5.75) Stop 3049135 First (3050337 9.79) Second (3050043 -5.95) Third (3050298 -6.1) Stop 3047593 First (3048687 6.35) Second (3048615 -1.34) Third (3048543 -2.46) Stop 3047180 First (3047569 7.45) Second (3047452 2.25) Third (3047572 0.97) Stop 3044188 First (3047061 4.31) Second (3046977 -4.56) Third (3046926 -6.94) Stop 3043178 First (3043921 6.51) Second (3043840 1.45) Third (3043795 0.5) Stop 3041332 First (3041643 6.1) Second (3041418 0.62) Third (3041532 -1.53) Stop 3040509 First (3041168 8.07) Second (3040928 -0.58) Third (3041063 -4.06) Stop 3038824 First (3039090 5.98) Second (3039042 0.57) Third (3039018 -1.85) Stop 3038436 First (3038843 0.4) Second (3038633 -1.6) Third (3038639 -2.14) Stop 3036867 First (3037763 4.9) Second (3037688 -3.19) Third (3037601 -5.37) Stop 3036132 First (3036842 7.53) Second (3036827 4.5) Third (3036824 0.82) Stop 3034393 First (3036126 -1.96) Second (3035901 -2.84) Third (3036075 -4.17) Stop 3033204 First (3033950 -5.2) Second (3034085 -5.88) Third (3033863 -6.71) Stop 3031677 First (3033194 7.51) Second (3032957 -4.93) Third (3033050 -6.68) Stop 3027032 First (3028951 6.25) Second (3028966 3.2) Third (3028957 1.44) Stop 3026544 First (3027032 3.78) Second (3026813 1.72) Third (3027035 -0.52) Stop 3012308 First (3013078 3.51) Second (3012979 3.32) Third (3012934 -4.05) Stop 3010635 First (3012260 1.15) Second (3011984 -3.39) Third (3012206 -6.46) Stop 3002030 First (3003808 5.59) Second (3003778 -2.51) Third (3003742 -2.9) Stop 2997158 First (2997913 3.02) Second (2997937 0.96) Third (2997871 0.26) Stop 2996056 First (2996850 3.83) Second (2996772 0.59) Third (2996862 0.16) Stop 2995711 First (2995989 -1.55) Second (2996010 -4.95) Third (2995890 -8.77) Stop 2995257 First (2995622 5.04) Second (2995535 -0.7) Third (2995667 -2.78) Stop 2994394 First (2995299 0.32) Second (2995185 -0.89) Third (2995218 -3.11) Stop 2993984 First (2994409 1.85) Second (2994358 -2.19) Third (2994145 -5.31) Stop 2993770 First (2994042 1.6) Second (2994024 -1.41) Third (2994018 -2.14) Stop 2993336 First (2993767 0.71) Second (2993743 -4.39) Third (2993545 -6.8) Stop 2992959 Two predictions First (2993114 3.03) Second (2993072 -4.18) Stop 2992482 First (2992925 2.29) Second (2992928 1.52) Third (2992853 -1.61) Stop 2987957 First (2988382 2.31) Second (2988394 -2.09) Third (2988343 -3.15) Stop 2982433 First (2983614 3.85) Second (2983536 -1.24) Third (2983602 -2.15) Stop 2981310 First (2982146 4.03) Second (2982038 1.03) Third (2982074 -4.85) Stop 2980519 First (2981280 5.66) Second (2981205 2.62) Third (2981199 -0.89) Stop 2978786 First (2980204 3.32) Second (2980144 0.7) Third (2980309 0.46) Stop 2977965 First (2978657 0.08) Second (2978630 -3.93) Third (2978726 -6.95) Stop 2975659 First (2976921 6.0) Second (2976708 -4.68) Third (2976729 -5.63) Stop 2971877 First (2974036 6.84) Second (2974012 -2.53) Third (2973886 -2.56) Stop 2970691 First (2971884 4.88) Second (2971872 0.92) Third (2971824 -0.9) Stop 2966469 First (2966933 5.31) Second (2966999 3.27) Third (2966960 0.68) Stop 2964210 First (2966456 3.69) Second (2966360 -4.36) Third (2966300 -6.01) Stop 2963184 First (2963948 1.19) Second (2964059 -0.58) Third (2963999 -1.61) Stop 2962383 First (2963177 6.19) Second (2963156 1.81) Third (2963045 -2.68) Stop 2961729 First (2962139 -1.45) Second (2962052 -2.77) Third (2962154 -4.59)

Stop 2961175 First (2961978 7.46) Second (2961975 5.14) Third (2961738 1.49) Stop 2960771 First (2961178 3.53) Second (2961001 3.14) Third (2961115 -0.44) Stop 2960463 First (2960786 4.94) Second (2960729 2.64) Third (2960810 2.29) Stop 2957082 First (2960450 5.86) Second (2960402 1.91) Third (2960327 -0.8) Stop 2954018 First (2956906 5.39) Second (2956750 -0.76) Third (2956873 -1.62) Stop 2950483 First (2954025 5.86) Second (2953995 -0.88) Third (2954034 -3.68) Stop 2948657 First (2950483 10.2) Second (2950477 6.18) Third (2950453 -0.42) Stop 2945779 First (2947032 4.12) Second (2947122 0.75) Third (2946975 -1.84) Stop 2944103 First (2945467 1.12) Second (2945200 -4.36) Third (2945170 -5.1) Stop 2943058 First (2943864 6.19) Second (2943858 2.44) Third (2943600 -1.93) Stop 2940940 First (2941167 7.87) Second (2941170 4.27) Third (2941023 -3.36) Stop 2939672 First (2940589 3.4) Second (2940448 0.62) Third (2940496 -0.57) Stop 2939258 First (2939653 5.82) Second (2939545 4.03) Third (2939560 2.25) Stop 2938165 First (2939265 6.87) Second (2939250 -0.69) Third (2939028 -5.16) Stop 2931063 First (2931710 7.34) Second (2931599 -0.41) Third (2931662 -1.16) Stop 2929887 First (2931035 7.11) Second (2931038 5.55) Third (2931023 2.09) Stop 2926224 First (2928065 -0.95) Second (2927906 -1.2) Third (2927876 -3.15) Stop 2922757 First (2923302 2.07) Second (2923293 -0.31) Third (2923089 -6.4) Stop 2921806 First (2922135 6.05) Second (2922003 -0.07) Third (2921961 -1.18) Stop 2921024 First (2921806 1.09) Second (2921701 -0.07) Third (2921707 -0.7) Stop 2920557 First (2921006 7.54) Second (2920955 0.74) Third (2920976 -3.8) Stop 2918770 First (2920122 7.52) Second (2920053 -0.66) Third (2920092 -0.89) Stop 2917428 First (2918768 6.74) Second (2918702 -0.52) Third (2918783 -0.78) Stop 2916067 First (2917407 7.17) Second (2917356 -0.68) Third (2917338 -0.84) Stop 2911721 First (2913022 3.54) Second (2912890 -6.97) Third (2912689 -8.38) Stop 2909439 First (2911673 6.62) Second (2911508 -5.74) Third (2911463 -6.85) Stop 2909113 First (2909361 7.75) Second (2909298 1.63) Third (2909319 0.89) Stop 2908778 First (2909113 7.88) Second (2909002 1.52) Third (2909089 -1.49) Stop 2907916 First (2908707 6.4) Second (2908677 -0.19) Third (2908689 -3.82) Stop 2906051 First (2907688 4.34) Second (2907535 0.32) Third (2907574 -1.81) Stop 2904665 First (2905963 7.83) Second (2905864 2.07) Third (2905684 -5.65) Stop 2902769 First (2903440 2.38) Second (2903419 0.37) Third (2903020 -9.34) Stop 2897510 First (2898295 3.68) Second (2898370 -1.4) Third (2898085 -1.92) Stop 2896784 First (2897440 6.85) Second (2897233 -3.04) Third (2897245 -7.46) Stop 2895987 First (2896721 0.47) Second (2896805 -0.99) Third (2896781 -1.71) Stop 2894556 First (2895893 6.26) Second (2895965 2.98) Third (2895878 -4.3) Stop 2893799 First (2894578 9.4) Second (2894584 2.41) Third (2894536 0.81) Stop 2892942 First (2893802 4.22) Second (2893835 2.65) Third (2893787 -2.37) Stop 2888122 First (2889921 4.4) Second (2889894 -2.51) Third (2889741 -4.15) Stop 2886410 First (2888122 3.07) Second (2888095 1.58) Third (2888062 -2.6) Stop 2885601 First (2886335 6.82) Second (2886374 0.57) Third (2886116 -5.15) Stop 2882576 First (2885242 10.03) Second (2885074 -6.03) Third (2885191 -7.41) Stop 2880653 First (2882161 6.74) Second (2882155 1.08) Third (2882035 -2.75) Stop 2880178 First (2880660 10.81) Second (2880639 0.64) Third (2880480 -4.14) Stop 2879074 First (2880165 7.48) Second (2880099 0.02) Third (2880093 -2.82) Stop 2878397 First (2879071 5.34) Second (2879059 -0.35) Third (2879077 -1.02) Stop 2877811 First (2878410 9.19) Second (2878251 -5.29) Third (2878236 -5.72) Stop 2876878 First (2877795 7.04) Second (2877747 1.0) Third (2877441 -4.72) Stop 2876592 First (2876876 4.34) Second (2876981 0.78) Third (2876942 -1.83) Stop 2873444 First (2874352 6.22) Second (2874139 -1.89) Third (2874226 -3.34) Stop 2872015 First (2873442 8.67) Second (2873388 -0.73) Third (2873199 -6.8) Stop 2871410 First (2872015 11.04) Second (2871967 -3.49) Third (2871730 -6.07) Stop 2871037 First (2871360 5.67) Second (2871072 -4.44) Third (2871240 -8.37)

Stop 2870532 First (2870843 7.44) Second (2870738 -3.61) Third (2870615 -4.81) Stop 2869803 First (2870513 7.75) Second (2870453 0.73) Third (2870483 -1.32) Stop 2869324 First (2869803 8.41) Second (2869689 -7.06) Third (2869491 -8.08) Stop 2868278 First (2869327 7.45) Second (2869231 -1.36) Third (2869246 -1.43) Stop 2867536 First (2868297 3.94) Second (2868342 1.27) Third (2868288 -5.15) Stop 2866916 First (2867542 5.21) Second (2867476 -2.44) Third (2867395 -2.73) Stop 2865637 First (2866776 10.69) Second (2866626 -3.35) Third (2866602 -4.07) Stop 2864582 First (2865574 6.83) Second (2865610 3.98) Third (2865415 -3.04) Stop 2858490 First (2859287 4.54) Second (2859257 4.15) Third (2859173 1.22) Stop 2854476 First (2854829 7.08) Second (2854784 2.11) Third (2854721 -1.62) Stop 2847997 First (2848458 5.47) Second (2848155 -6.31) Third (2848323 -8.44) Stop 2847261 First (2847872 2.42) Second (2847773 -1.95) Third (2847755 -3.02) Stop 2845438 First (2847264 7.52) Second (2847054 -4.23) Third (2847234 -5.94) Stop 2844512 First (2845435 7.59) Second (2845402 -3.17) Third (2845213 -6.62) Stop 2842785 First (2844494 1.5) Second (2844500 -2.89) Third (2844359 -6.12) Stop 2842233 First (2842775 6.27) Second (2842478 -8.24) Third (2842250 -13.03) Stop 2841466 First (2842233 5.62) Second (2842158 -2.14) Third (2842185 -6.37) Stop 2841059 First (2841469 4.95) Second (2841457 0.23) Third (2841454 -0.09) Stop 2840596 First (2841066 5.26) Second (2841030 -0.63) Third (2840961 -2.13) Stop 2836277 First (2837287 4.57) Second (2837290 3.55) Third (2837329 0.6) Stop 2835601 First (2836128 7.06) Second (2836131 -0.64) Third (2835876 -1.6) Stop 2833196 First (2835448 3.06) Second (2835496 -3.86) Third (2835520 -7.19) Stop 2828798 First (2830312 4.64) Second (2830387 1.06) Third (2830294 -4.44) Stop 2822514 First (2823704 3.33) Second (2823647 1.23) Third (2823599 -0.08) Stop 2821872 First (2822369 5.44) Second (2822351 0.89) Third (2822258 -0.52) Stop 2820731 First (2821792 8.48) Second (2821711 1.12) Third (2821687 -0.5) Stop 2820162 First (2820662 6.28) Second (2820542 -3.02) Third (2820335 -7.01) Stop 2817403 First (2820033 7.56) Second (2819886 -6.03) Third (2819904 -6.79) Stop 2816983 First (2817168 6.71) Second (2817132 2.34) Third (2817111 0.93) Stop 2814959 First (2815525 1.61) Second (2815492 0.74) Third (2815282 -6.99) Stop 2814534 First (2814962 -1.7) Second (2814818 -3.55) Third (2814875 -5.63) Stop 2812905 First (2814461 6.57) Second (2814371 -0.69) Third (2814248 -4.74) Stop 2812239 First (2812754 9.65) Second (2812682 3.13) Third (2812748 0.35) Stop 2798720 First (2798962 -2.73) Second (2798974 -5.84) Third (2798788 -10.8) Stop 2797671 First (2798015 7.6) Second (2797886 -1.55) Third (2797994 -5.05) Stop 2796112 First (2796516 5.44) Second (2796432 -0.54) Third (2796507 -1.16) Stop 2794891 First (2795049 9.61) Second (2794926 -3.19) Third (2794953 -4.2) Stop 2794358 First (2794807 6.09) Second (2794789 0.77) Third (2794717 -1.26) Stop 2783820 First (2783984 3.48) Second (2783993 1.38) Third (2783972 0.55) Stop 2782549 First (2783031 6.48) Second (2782947 -0.61) Third (2782989 -2.56) Stop 2781658 First (2782449 -3.23) Second (2782401 -5.29) Third (2782347 -7.21) Stop 2781085 First (2781228 4.22) Second (2781207 -7.01) Third (2781090 -8.71) Stop 2776167 First (2780747 2.93) Second (2780876 -0.49) Third (2780843 -0.64) Stop 2775130 First (2775351 1.21) Second (2775375 -0.57) Third (2775357 -0.84) Stop 2773805 First (2774290 2.79) Second (2774329 -0.1) Third (2774362 -1.41) Stop 2770997 First (2771179 -1.15) Second (2771041 -3.9) Third (2771113 -4.08) Stop 2769861 First (2770175 2.48) Second (2769977 0.88) Third (2770067 -0.99) Stop 2763534 First (2763797 7.82) Second (2763653 -3.86) Third (2763557 -4.02) Stop 2761558 First (2763174 5.45) Second (2763090 -3.11) Third (2763063 -3.58) Stop 2759372 First (2761561 5.86) Second (2761438 -1.29) Third (2761432 -1.9) Stop 2755665 First (2756621 -0.61) Second (2756741 -3.08) Third (2756672 -3.57) Stop 2752309 First (2752785 4.74) Second (2752758 3.45) Third (2752746 3.15) Stop 2752029 First (2752319 1.63) Second (2752337 -0.57) Third (2752403 -1.6)

Stop 2748136 First (2748729 7.04) Second (2748675 3.62) Third (2748525 -4.03) Stop 2744454 First (2745815 3.53) Second (2745710 -2.5) Third (2745791 -4.03) Stop 2743957 Two predictions First (2744265 6.43) Second (2744205 5.75) Stop 2743390 First (2743884 4.45) Second (2743848 -1.05) Third (2743947 -1.2) Stop 2742592 First (2743359 2.25) Second (2743326 0.38) Third (2743176 -0.43) Stop 2742203 First (2742550 5.03) Second (2742514 1.52) Third (2742475 0.14) Stop 2738100 First (2739170 4.09) Second (2739239 2.11) Third (2739119 1.76) Stop 2736968 First (2738089 6.72) Second (2737933 -0.88) Third (2737984 -2.51) Stop 2735093 First (2735629 -0.45) Second (2735752 -3.77) Third (2735620 -4.29) Stop 2733051 First (2734031 0.67) Second (2733953 -2.6) Third (2733962 -7.12) Stop 2732323 First (2733054 4.62) Second (2732877 -4.09) Third (2732832 -5.52) Stop 2729620 First (2732193 10.54) Second (2732205 2.06) Third (2732091 -2.13) Stop 2722468 First (2723766 5.08) Second (2723544 -1.64) Third (2723694 -1.96) Stop 2715511 First (2716548 5.19) Second (2716506 1.7) Third (2716536 -0.89) Stop 2714086 First (2714469 9.73) Second (2714487 -3.16) Third (2714343 -4.77) Stop 2712459 First (2713385 2.89) Second (2713340 2.74) Third (2713286 1.15) Stop 2710047 First (2710784 1.23) Second (2710904 -5.95) Third (2710679 -6.66) Stop 2707457 First (2708032 6.91) Second (2707954 -3.65) Third (2707888 -4.73) Stop 2706774 First (2707424 6.81) Second (2707397 -0.66) Third (2707340 -1.86) Stop 2705818 First (2706774 2.24) Second (2706675 -0.05) Third (2706753 -4.03) Stop 2705342 First (2705821 5.17) Second (2705629 -1.41) Third (2705644 -4.08) Stop 2703345 First (2705144 3.24) Second (2705015 0.94) Third (2705039 -2.21) Stop 2702355 First (2703329 5.61) Second (2703320 1.72) Third (2703266 -1.53) Stop 2701403 First (2702017 -1.2) Second (2701882 -1.37) Third (2702083 -2.46) Stop 2700501 First (2701406 5.04) Second (2701205 -1.67) Third (2701175 -6.5) Stop 2699761 First (2700489 4.27) Second (2700396 1.85) Third (2700429 1.56) Stop 2699018 First (2699749 6.22) Second (2699764 -0.75) Third (2699761 -1.03) Stop 2698638 First (2699018 0.04) Second (2698988 -0.57) Third (2698700 -7.28) Stop 2695935 First (2696570 3.39) Second (2696546 -1.79) Third (2696549 -2.7) Stop 2695374 First (2695877 3.04) Second (2695910 0.32) Third (2695796 -0.55) Stop 2689676 First (2693560 3.2) Second (2693563 2.11) Third (2693335 -6.31) Stop 2687691 First (2689118 -1.15) Second (2689181 -1.79) Third (2689178 -4.55) Stop 2686813 First (2687526 2.87) Second (2687532 1.76) Third (2687448 -2.41) Stop 2685489 First (2686823 3.77) Second (2686925 0.07) Third (2686862 -1.66) Stop 2685090 First (2685428 6.04) Second (2685347 -1.28) Third (2685272 -1.44) Stop 2682274 First (2683527 5.46) Second (2683533 3.98) Third (2683512 2.65) Stop 2677484 First (2680765 3.44) Second (2680690 1.94) Third (2680858 -0.21) Stop 2676404 First (2677387 8.96) Second (2677348 2.49) Third (2677297 1.3) Stop 2674870 First (2676381 5.54) Second (2676342 -2.49) Third (2676084 -2.63) Stop 2673847 First (2674845 7.21) Second (2674686 -1.64) Third (2674761 -4.72) Stop 2672720 First (2673781 7.7) Second (2673814 2.22) Third (2673772 1.92) Stop 2671836 First (2672708 9.23) Second (2672588 -5.6) Third (2672408 -9.14) Stop 2666026 First (2666916 3.51) Second (2666982 -1.65) Third (2667009 -1.76) Stop 2664727 First (2665866 9.64) Second (2665860 4.68) Third (2665842 -6.9) Stop 2660603 First (2661343 2.05) Second (2661262 0.91) Third (2661178 -0.79) Stop 2659663 First (2660151 7.19) Second (2660121 0.59) Third (2660112 -0.64) Stop 2658337 First (2659551 7.14) Second (2659482 2.45) Third (2659473 0.52) Stop 2657923 First (2658309 10.63) Second (2658261 -1.24) Third (2658183 -5.89) Stop 2657583 First (2657906 6.76) Second (2657795 2.36) Third (2657912 -0.52) Stop 2656972 First (2657487 4.17) Second (2657277 -3.47) Third (2657292 -5.4) Stop 2655105 First (2656955 2.77) Second (2657009 -3.37) Third (2656760 -5.46) Stop 2654768 First (2655103 8.6) Second (2655085 -1.41) Third (2654890 -2.64) Stop 2654556 First (2654756 7.58) Second (2654663 -3.56) Third (2654585 -6.1)

Stop 2653095 First (2654378 4.27) Second (2654465 -0.51) Third (2654366 -3.22) Stop 2652177 First (2652953 1.05) Second (2652962 -0.42) Third (2652818 -2.19) Stop 2645346 First (2650307 7.8) Second (2650280 0.36) Third (2650274 -3.33) Stop 2643033 First (2645345 0.62) Second (2645306 0.03) Third (2645210 -3.35) Stop 2642453 First (2642884 8.02) Second (2642686 -3.72) Third (2642770 -5.7) Stop 2641149 First (2642303 6.3) Second (2642159 -0.44) Third (2642126 -3.17) Stop 2639851 First (2640864 -2.34) Second (2640429 -6.69) Third (2640576 -7.47) Stop 2638706 First (2639824 9.96) Second (2639584 -4.17) Third (2639767 -4.37) Stop 2637321 First (2638595 2.39) Second (2638565 -0.01) Third (2638502 -1.26) Stop 2636683 First (2637303 3.98) Second (2637213 -0.76) Third (2637219 -6.56) Stop 2635494 First (2636672 4.43) Second (2636666 0.12) Third (2636579 -1.12) Stop 2633904 First (2635376 6.83) Second (2635403 -0.95) Third (2635367 -4.01) Stop 2633619 First (2633834 9.16) Second (2633747 2.92) Third (2633855 0.25) Stop 2630624 First (2632159 6.11) Second (2632090 1.78) Third (2632135 1.13) Stop 2628978 First (2630555 5.08) Second (2630435 -2.72) Third (2630477 -7.35) Stop 2627175 First (2627465 -0.78) Second (2627195 -2.57) Third (2627441 -3.65) Stop 2624715 First (2626958 4.19) Second (2626787 -4.01) Third (2626793 -4.83) Stop 2618266 First (2618892 7.21) Second (2618841 0.87) Third (2618883 -1.9) Stop 2616891 First (2618180 6.99) Second (2618222 -0.31) Third (2617895 -4.32) Stop 2616095 First (2616841 2.31) Second (2616520 -7.92) Third (2616772 -8.32) Stop 2615637 First (2616008 2.41) Second (2615969 -2.77) Third (2615984 -3.34) Stop 2612840 First (2613901 7.09) Second (2613892 0.69) Third (2613886 -2.64) Stop 2596902 First (2597780 5.05) Second (2597798 -0.29) Third (2597711 -2.49) Stop 2595851 First (2596885 9.1) Second (2596888 0.52) Third (2596714 -3.94) Stop 2594925 First (2595638 8.72) Second (2595431 -1.86) Third (2595647 -2.36) Stop 2593894 First (2594757 6.88) Second (2594688 -2.37) Third (2594586 -5.37) Stop 2591864 First (2593879 3.71) Second (2593840 0.21) Third (2593765 -3.1) Stop 2591092 First (2591790 7.65) Second (2591814 3.8) Third (2591697 0.37) Stop 2581566 First (2583545 4.71) Second (2583530 2.18) Third (2583476 -2.69) Stop 2580923 First (2581498 5.28) Second (2581525 2.07) Third (2581321 -4.63) Stop 2579754 First (2580797 4.72) Second (2580638 -2.14) Third (2580674 -4.96) Stop 2574118 First (2576397 7.16) Second (2576199 -2.02) Third (2576127 -5.04) Stop 2573490 First (2573795 2.3) Second (2573825 1.31) Third (2573864 -1.71) Stop 2572998 First (2573477 6.8) Second (2573279 -1.04) Third (2573459 -3.05) Stop 2572322 First (2573023 5.1) Second (2572957 -3.07) Third (2572732 -4.72) Stop 2571522 First (2572325 0.91) Second (2572022 -0.54) Third (2571881 -11.3) Stop 2570509 First (2571525 5.72) Second (2571477 -6.15) Third (2571327 -7.13) Stop 2570177 First (2570470 6.97) Second (2570455 4.19) Third (2570407 0.64) Stop 2569783 First (2570070 3.84) Second (2569986 -3.47) Third (2569899 -3.83) Stop 2568368 First (2569771 5.77) Second (2569615 0.32) Third (2569744 -0.01) Stop 2567521 First (2568357 10.98) Second (2568174 -4.34) Third (2568237 -4.36) Stop 2566344 First (2567531 7.8) Second (2567558 -1.99) Third (2567294 -2.88) Stop 2564901 First (2566127 8.37) Second (2565971 2.27) Third (2566106 2.06) Stop 2563501 First (2564904 6.02) Second (2564886 -4.4) Third (2564751 -7.01) Stop 2555338 First (2556699 7.14) Second (2556642 0.58) Third (2556741 -1.6) Stop 2554430 First (2555317 8.29) Second (2555269 0.47) Third (2555278 -4.35) Stop 2553761 First (2554420 11.25) Second (2554162 -3.08) Third (2554333 -3.15) Stop 2553248 First (2553748 6.54) Second (2553721 1.53) Third (2553682 0.85) Stop 2552150 First (2553202 0.55) Second (2553118 -0.96) Third (2553178 -5.16) Stop 2549733 First (2550158 2.88) Second (2550065 -1.09) Third (2550047 -1.97) Stop 2549297 First (2549746 2.63) Second (2549752 0.12) Third (2549644 -4.75) Stop 2548661 First (2549236 5.07) Second (2549218 0.79) Third (2549206 -0.29) Stop 2547666 First (2548565 8.85) Second (2548592 -1.48) Third (2548499 -2.81)

Stop 2542772 First (2543629 -4.79) Second (2543626 -7.5) Third (2543884 -7.66) Stop 2541852 First (2542643 7.9) Second (2542709 -3.18) Third (2542601 -4.77) Stop 2540532 First (2541548 6.19) Second (2541173 -8.94) Third (2541128 -10.45) Stop 2539699 First (2540532 6.54) Second (2540409 -2.98) Third (2540385 -3.97) Stop 2538824 First (2539699 5.42) Second (2539681 -0.39) Third (2539549 -0.52) Stop 2537737 First (2538834 9.48) Second (2538747 0.28) Third (2538600 -7.83) Stop 2536692 First (2537681 6.04) Second (2537603 -0.38) Third (2537549 -2.81) Stop 2534406 First (2535257 10.21) Second (2535197 -0.18) Third (2535242 -0.83) Stop 2528267 First (2529250 2.82) Second (2529253 2.32) Third (2529292 -0.42) Stop 2526181 First (2528196 0.77) Second (2528082 -1.92) Third (2528124 -3.97) Stop 2523950 First (2524876 3.81) Second (2524765 -1.63) Third (2524777 -2.45) Stop 2522065 First (2522898 5.38) Second (2522691 -2.62) Third (2522619 -4.2) Stop 2520749 First (2522005 6.97) Second (2521993 3.36) Third (2521978 0.98) Stop 2519613 First (2520497 5.99) Second (2520512 -0.68) Third (2520434 -3.04) Stop 2517277 First (2518692 6.5) Second (2518512 -1.19) Third (2518521 -1.9) Stop 2513663 First (2515852 0.02) Second (2515969 -0.5) Third (2515957 -1.7) Stop 2509488 First (2510726 6.53) Second (2510663 5.22) Third (2510678 2.25) Stop 2506481 First (2507446 5.94) Second (2507281 -2.13) Third (2507419 -2.58) Stop 2505936 First (2506262 7.08) Second (2506205 -2.37) Third (2506313 -4.0) Stop 2504667 First (2505914 7.4) Second (2505779 0.67) Third (2505776 -2.19) Stop 2503567 First (2504652 7.43) Second (2504598 -0.75) Third (2504535 -2.76) Stop 2502530 First (2503567 3.83) Second (2503504 -4.46) Third (2503363 -4.8) Stop 2500010 First (2502505 5.58) Second (2502478 -5.84) Third (2502253 -5.89) Stop 2495077 First (2496315 7.93) Second (2496231 0.17) Third (2496189 -4.76) Stop 2493070 First (2493312 9.21) Second (2493132 1.22) Third (2493297 0.37) Stop 2491787 First (2492422 5.47) Second (2492407 0.52) Third (2492398 -0.93) Stop 2490024 First (2491274 3.04) Second (2491028 -1.89) Third (2490962 -3.13) Stop 2488276 First (2489970 3.94) Second (2489940 -1.82) Third (2489862 -3.19) Stop 2487262 First (2488206 2.54) Second (2488029 -1.96) Third (2488161 -6.11) Stop 2486043 First (2487188 3.77) Second (2487137 -0.78) Third (2487227 -2.3) Stop 2480196 First (2481236 0.64) Second (2481359 -0.83) Third (2481251 -3.73) Stop 2478658 First (2480196 4.38) Second (2480112 -0.29) Third (2480106 -4.95) Stop 2474714 First (2475649 6.02) Second (2475655 -0.94) Third (2475592 -2.63) Stop 2470898 First (2471266 -12.99) Second (2471194 -15.71) Third (2471140 -17.1) Stop 2470407 First (2470895 6.35) Second (2470901 0.4) Third (2470886 -5.01) Stop 2470132 First (2470407 6.53) Second (2470440 1.06) Third (2470380 0.32) Stop 2469564 First (2470256 -0.02) Second (2470286 -0.32) Third (2470253 -3.2) Stop 2469097 First (2469537 5.82) Second (2469489 -1.25) Third (2469264 -3.4) Stop 2468268 First (2468504 0.93) Second (2468513 -3.79) Third (2468339 -6.66) Stop 2462272 First (2463027 7.47) Second (2462913 2.6) Third (2462982 1.13) Stop 2458670 First (2458954 6.48) Second (2458894 0.03) Third (2458912 -3.15) Stop 2457179 First (2458489 7.02) Second (2458282 -1.5) Third (2458360 -1.73) Stop 2455035 First (2457179 7.06) Second (2457173 2.59) Third (2457098 1.1) Stop 2454347 First (2454817 3.73) Second (2454832 1.52) Third (2454706 -0.48) Stop 2453103 First (2453666 8.34) Second (2453501 -0.34) Third (2453399 -1.32) Stop 2451285 First (2453021 3.55) Second (2452964 -3.11) Third (2452718 -7.54) Stop 2449604 First (2450356 6.74) Second (2450320 3.61) Third (2450287 -4.08) Stop 2449092 First (2449589 9.38) Second (2449604 2.97) Third (2449526 0.14) Stop 2448607 First (2449095 4.68) Second (2449008 -0.21) Third (2448906 -7.46) Stop 2448071 First (2448610 4.33) Second (2448598 2.18) Third (2448550 1.68) Stop 2447248 First (2448069 5.79) Second (2447928 -1.66) Third (2448084 -2.27) Stop 2445528 First (2446793 7.96) Second (2446460 -2.96) Third (2446721 -7.4) Stop 2444408 First (2445493 3.21) Second (2445496 -5.06) Third (2445016 -13.38)

Stop 2443580 First (2444404 1.86) Second (2444179 -2.73) Third (2444317 -3.68) Stop 2442771 First (2443580 2.93) Second (2443556 1.87) Third (2443439 -3.89) Stop 2442223 First (2442771 0.27) Second (2442957 -2.71) Third (2442744 -14.54) Stop 2441911 First (2442189 8.52) Second (2442144 0.38) Third (2442117 -4.69) Stop 2438405 First (2439625 7.51) Second (2439496 2.21) Third (2439613 -2.13) Stop 2436962 First (2438140 6.49) Second (2437987 -0.8) Third (2438056 -2.9) Stop 2434735 First (2435847 3.31) Second (2435871 2.0) Third (2435808 -1.01) Stop 2433656 First (2434669 7.17) Second (2434624 -1.23) Third (2434504 -3.33) Stop 2432844 First (2433656 7.22) Second (2433521 -4.95) Third (2433554 -5.17) Stop 2432102 First (2432761 5.9) Second (2432665 -2.02) Third (2432602 -4.22) Stop 2431032 First (2431946 2.78) Second (2432030 0.74) Third (2431880 -4.08) Stop 2429694 First (2430962 2.71) Second (2430749 -0.36) Third (2430731 -3.59) Stop 2429042 First (2429704 4.74) Second (2429722 -0.21) Third (2429539 -1.33) Stop 2428295 First (2428783 6.33) Second (2428690 -3.51) Third (2428753 -3.91) Stop 2426741 First (2428258 7.99) Second (2428057 0.68) Third (2428228 -0.55) Stop 2426077 First (2426646 5.6) Second (2426541 -7.32) Third (2426595 -7.82) Stop 2425029 First (2425811 7.29) Second (2425625 -2.58) Third (2425637 -4.18) Stop 2424026 First (2424808 7.06) Second (2424796 -1.18) Third (2424541 -6.91) Stop 2423250 First (2423936 3.04) Second (2423933 -0.8) Third (2423744 -3.97) Stop 2422537 First (2423253 3.82) Second (2423187 -5.61) Third (2423160 -6.12) Stop 2421756 First (2422529 4.1) Second (2422343 -2.56) Third (2422211 -3.17) Stop 2420669 First (2421559 6.27) Second (2421289 -1.51) Third (2421340 -4.49) Stop 2417861 First (2418505 7.07) Second (2418430 -3.24) Third (2418451 -4.19) Stop 2417254 First (2417805 7.87) Second (2417796 3.19) Third (2417808 0.51) Stop 2416654 First (2417196 4.77) Second (2417109 3.19) Third (2417181 -1.71) Stop 2412695 First (2414965 2.88) Second (2414920 -0.44) Third (2414923 -2.06) Stop 2410697 First (2411152 6.69) Second (2411113 -1.81) Third (2410903 -2.39) Stop 2410120 First (2410614 6.52) Second (2410608 4.73) Third (2410485 -0.05) Stop 2409459 First (2410109 5.16) Second (2410127 2.64) Third (2410067 -1.34) Stop 2407540 First (2409372 4.73) Second (2409297 1.4) Third (2409303 -0.51) Stop 2403723 First (2404661 4.97) Second (2404526 0.59) Third (2404385 -3.59) Stop 2402649 First (2403092 4.82) Second (2403086 3.03) Third (2402951 0.31) Stop 2401971 First (2402633 7.25) Second (2402501 -0.66) Third (2402519 -2.57) Stop 2400075 First (2401865 0.15) Second (2401877 -0.4) Third (2401874 -2.24) Stop 2399572 First (2400072 3.94) Second (2399997 -0.17) Third (2399643 -7.53) Stop 2398238 First (2399575 8.0) Second (2399350 -1.6) Third (2399506 -2.86) Stop 2395459 First (2398191 3.0) Second (2398185 2.56) Third (2397984 -4.73) Stop 2394485 First (2395462 11.14) Second (2395369 3.62) Third (2395264 -0.75) Stop 2393928 First (2394470 6.79) Second (2394416 0.0) Third (2394455 -3.94) Stop 2393362 First (2393916 6.32) Second (2393727 -3.17) Third (2393724 -7.66) Stop 2393063 First (2393365 5.72) Second (2393254 2.36) Third (2393275 -4.08) Stop 2391225 First (2393060 5.08) Second (2393066 1.49) Third (2393039 -0.74) Stop 2389532 First (2391061 5.44) Second (2390956 -1.12) Third (2390857 -4.25) Stop 2388068 First (2389525 4.56) Second (2389345 -1.32) Third (2389327 -1.94) Stop 2385730 First (2386446 6.09) Second (2386377 -3.56) Third (2386335 -4.57) Stop 2382015 First (2383742 4.55) Second (2383712 -1.06) Third (2383721 -2.24) Stop 2379102 First (2379563 8.59) Second (2379278 -2.07) Third (2379386 -5.12) Stop 2378742 First (2379047 6.4) Second (2378978 -1.33) Third (2378900 -2.88) Stop 2377368 First (2378663 4.52) Second (2378621 -6.33) Third (2378543 -6.95) Stop 2375609 First (2377483 -4.34) Second (2377447 -4.88) Third (2377279 -5.08) Stop 2374854 First (2375612 4.77) Second (2375561 -2.23) Third (2375333 -5.8) Stop 2373982 First (2374839 5.9) Second (2374818 -0.85) Third (2374674 -4.26) Stop 2373020 First (2373982 4.91) Second (2373934 -3.54) Third (2373745 -3.76)

Stop 2371668 First (2373023 5.47) Second (2372858 -2.72) Third (2372888 -3.71) Stop 2371292 First (2371558 5.36) Second (2371588 -0.43) Third (2371471 -0.98) Stop 2363038 First (2363640 2.61) Second (2363529 -2.93) Third (2363667 -3.52) Stop 2361753 First (2362295 6.11) Second (2362316 1.76) Third (2362262 0.84) Stop 2360451 First (2361653 7.84) Second (2361638 2.19) Third (2361617 1.95) Stop 2359449 First (2360231 4.04) Second (2360228 0.85) Third (2360177 -3.4) Stop 2358229 First (2359434 6.52) Second (2359446 2.95) Third (2359302 -6.71) Stop 2356883 First (2358172 8.65) Second (2358211 -0.77) Third (2358130 -2.71) Stop 2356062 First (2356865 - 3.61) Second (2357168 - 4.85) Third (2356814 - 9.19) Stop 2349036 First (2350394 7.2) Second (2350391 3.86) Third (2350241 -5.39) Stop 2347955 First (2349031 6.74) Second (2348977 1.8) Third (2348962 1.78) Stop 2346842 First (2347492 4.71) Second (2347402 -0.77) Third (2347348 -3.13) Stop 2338437 First (2342189 3.73) Second (2342141 -1.99) Third (2341949 -4.02) Stop 2334813 First (2337440 7.16) Second (2337365 2.25) Third (2337167 -6.97) Stop 2332976 First (2334664 4.58) Second (2334712 1.85) Third (2334670 -0.47) Stop 2332356 First (2332979 -3.27) Second (2332919 -5.28) Third (2333006 -7.75) Stop 2328319 First (2332422 3.5) Second (2332254 -0.19) Third (2332437 -1.58) Stop 2326168 First (2327817 0.55) Second (2327637 -4.89) Third (2327790 -5.51) Stop 2325387 First (2326163 4.55) Second (2326142 -1.49) Third (2326100 -3.48) Stop 2315047 First (2317896 1.03) Second (2317848 0.0) Third (2317827 -3.08) Stop 2309666 First (2310769 8.11) Second (2310601 -5.55) Third (2310484 -7.53) Stop 2308499 First (2309554 8.4) Second (2309431 2.81) Third (2309533 -0.23) Stop 2307361 First (2308425 8.18) Second (2308095 -6.34) Third (2308335 -8.58) Stop 2306711 First (2307361 7.53) Second (2307193 4.81) Third (2307358 4.68) Stop 2304992 First (2306635 5.63) Second (2306581 -3.8) Third (2306464 -4.21) Stop 2303128 First (2304774 7.14) Second (2304756 2.01) Third (2304765 0.35) Stop 2301023 First (2301517 3.57) Second (2301160 -6.14) Third (2301238 -6.82) Stop 2300770 First (2301033 7.04) Second (2301000 -3.97) Third (2300904 -5.08) Stop 2298287 First (2300773 7.51) Second (2300749 2.69) Third (2300581 -4.59) Stop 2297585 First (2298280 5.99) Second (2298199 -2.11) Third (2297980 -3.03) Stop 2296735 First (2297598 8.13) Second (2297481 0.05) Third (2297391 -6.38) Stop 2296289 First (2296738 7.79) Second (2296594 2.32) Third (2296759 1.23) Stop 2295677 First (2296279 10.11) Second (2296066 1.49) Third (2296189 -1.99) Stop 2295041 First (2295658 3.83) Second (2295664 2.98) Third (2295466 -6.13) Stop 2294382 First (2295041 3.32) Second (2295044 -0.22) Third (2294798 -6.89) Stop 2293603 First (2294364 2.95) Second (2294340 0.66) Third (2294121 -2.11) Stop 2293397 First (2293606 6.77) Second (2293567 3.4) Third (2293510 -4.97) Stop 2292921 First (2293400 7.09) Second (2293202 -2.14) Third (2293244 -2.33) Stop 2290981 First (2292924 4.53) Second (2292921 4.19) Third (2292819 1.19) Stop 2290427 First (2290984 6.16) Second (2290969 -2.01) Third (2290957 -3.64) Stop 2289378 First (2290430 10.62) Second (2290418 4.6) Third (2290400 1.48) Stop 2287085 First (2288065 5.24) Second (2288101 1.56) Third (2287888 -1.6) Stop 2284410 First (2286743 -6.18) Second (2286920 -6.33) Third (2286689 -7.69) Stop 2280960 First (2281967 9.17) Second (2281895 -4.52) Third (2281853 -6.47) Stop 2280522 First (2280935 0.25) Second (2280953 -2.21) Third (2280800 -6.32) Stop 2277808 First (2278503 2.42) Second (2278314 -7.87) Third (2278257 -10.27) Stop 2276590 First (2277780 3.35) Second (2277636 0.02) Third (2277699 -2.54) Stop 2275913 First (2276257 5.18) Second (2276134 -4.74) Third (2276086 -4.78) Stop 2260385 First (2261515 9.16) Second (2261389 -2.88) Third (2261428 -3.85) Stop 2259447 First (2260385 8.99) Second (2260253 -2.5) Third (2260295 -3.77) Stop 2257739 First (2259430 7.14) Second (2259379 1.27) Third (2259304 -4.25) Stop 2256375 First (2257316 4.96) Second (2256977 -8.87) Third (2257052 -9.76) Stop 2255449 First (2256387 5.87) Second (2256117 -4.96) Third (2256339 -6.36)

Stop 2254105 First (2255355 7.0) Second (2255346 4.63) Third (2255322 -0.25) Stop 2252265 First (2253206 8.74) Second (2252993 -2.25) Third (2253146 -2.79) Stop 2250915 First (2252165 5.09) Second (2252156 3.79) Third (2252135 -0.25) Stop 2246757 First (2247638 3.24) Second (2247563 -1.36) Third (2247500 -2.38) Stop 2245083 First (2246552 4.21) Second (2246483 0.81) Third (2246387 -3.4) Stop 2242798 First (2244789 5.48) Second (2244780 -1.04) Third (2244693 -2.08) Stop 2241004 First (2241672 9.78) Second (2241531 -1.25) Third (2241582 -1.97) Stop 2239830 First (2240987 5.0) Second (2240765 -3.43) Third (2240813 -7.19) Stop 2238648 First (2239688 4.43) Second (2239580 -0.14) Third (2239646 -0.55) Stop 2237370 First (2238368 5.11) Second (2238326 -0.96) Third (2238356 -1.93) Stop 2235789 First (2237309 6.96) Second (2237264 3.8) Third (2237270 0.59) Stop 2234763 First (2235773 6.73) Second (2235656 -4.12) Third (2235467 -5.14) Stop 2227458 First (2228405 2.3) Second (2228399 -2.29) Third (2228375 -3.15) Stop 2226569 First (2226868 -1.09) Second (2226778 -1.64) Third (2226859 -2.16) Stop 2225343 First (2226431 1.15) Second (2226413 -0.43) Third (2226533 -2.24) Stop 2224529 First (2225290 6.44) Second (2225302 -1.46) Third (2225020 -3.1) Stop 2223064 First (2223651 7.89) Second (2223675 1.5) Third (2223609 -1.55) Stop 2221958 First (2222899 2.26) Second (2222890 1.27) Third (2222851 -2.57) Stop 2217712 First (2220009 4.9) Second (2220081 -1.25) Third (2220075 -1.41) Stop 2216584 First (2217501 7.91) Second (2217465 0.81) Third (2217462 -2.19) Stop 2215420 First (2216577 1.2) Second (2216421 -3.52) Third (2216427 -8.26) Stop 2214501 First (2215427 6.5) Second (2215337 2.0) Third (2215292 -2.93) Stop 2213765 First (2214496 7.31) Second (2214490 -0.54) Third (2214487 -3.37) Stop 2210979 First (2212664 0.14) Second (2212679 -0.71) Third (2212595 -1.63) Stop 2210263 First (2210982 7.37) Second (2210997 0.71) Third (2210856 -2.45) Stop 2209746 First (2210216 2.22) Second (2210273 -1.47) Third (2210153 -5.93) Stop 2191079 First (2192188 6.62) Second (2192218 2.93) Third (2192026 -1.15) Stop 2190535 First (2190816 6.61) Second (2190696 -3.98) Third (2190690 -4.12) Stop 2189700 First (2190242 6.91) Second (2190083 -1.4) Third (2190197 -2.87) Stop 2188946 First (2189620 4.51) Second (2189665 3.97) Third (2189410 -2.81) Stop 2186450 First (2188930 5.87) Second (2188927 2.31) Third (2188825 1.03) Stop 2185400 First (2186434 4.54) Second (2186419 3.98) Third (2186392 0.4) Stop 2185094 First (2185312 6.72) Second (2185333 -2.64) Third (2185225 -2.76) Stop 2183544 First (2183816 3.3) Second (2183750 0.36) Third (2183660 -2.2) Stop 2182533 First (2183321 6.78) Second (2183240 -4.74) Third (2183174 -6.58) Stop 2181736 First (2182536 8.95) Second (2182299 -6.77) Third (2182413 -8.02) Stop 2180853 First (2181671 7.0) Second (2181680 1.98) Third (2181413 -1.54) Stop 2180055 First (2180801 6.32) Second (2180663 -3.55) Third (2180573 -5.46) Stop 2175532 First (2176584 5.41) Second (2176656 -0.04) Third (2176467 -4.88) Stop 2174370 First (2175224 4.59) Second (2175218 0.15) Third (2175230 -1.83) Stop 2173079 First (2174341 7.1) Second (2174035 -4.29) Third (2174167 -6.09) Stop 2172617 First (2173069 7.51) Second (2172994 -0.52) Third (2172916 -4.44) Stop 2172302 First (2172586 7.33) Second (2172445 -0.89) Third (2172511 -1.58) Stop 2170943 First (2172298 7.3) Second (2172208 0.2) Third (2172283 -1.0) Stop 2169855 First (2170895 8.42) Second (2170814 -0.15) Third (2170862 -1.94) Stop 2169417 First (2169749 4.12) Second (2169755 1.23) Third (2169692 0.49) Stop 2167715 First (2168140 4.33) Second (2168161 4.3) Third (2168020 -3.01) Stop 2166011 First (2166328 5.51) Second (2166388 2.14) Third (2166286 0.14) Stop 2165757 First (2165942 3.65) Second (2165894 2.48) Third (2166023 1.54) Stop 2165624 First (2165770 -0.75) Second (2165719 -1.49) Third (2165653 -3.02) Stop 2165324 First (2165578 5.09) Second (2165542 4.31) Third (2165551 -0.66) Stop 2150491 First (2151150 7.49) Second (2151057 1.65) Third (2150865 -2.56) Stop 2149733 First (2150413 0.67) Second (2150494 -0.92) Third (2150320 -3.07)

Stop 2147061 First (2149007 0.79) Second (2148836 -0.56) Third (2148968 -0.62) Stop 2144714 First (2145562 7.44) Second (2145484 -1.6) Third (2145331 -2.59) Stop 2140329 First (2140970 3.93) Second (2141033 0.9) Third (2140799 -3.83) Stop 2139656 First (2140237 7.83) Second (2140189 -2.36) Third (2140057 -5.66) Stop 2137781 First (2139634 6.76) Second (2139610 0.32) Third (2139532 -1.62) Stop 2134126 First (2135181 3.19) Second (2135250 3.13) Third (2135265 1.75) Stop 2133677 First (2134027 1.35) Second (2134120 1.27) Third (2133877 -5.11) Stop 2131512 First (2133674 5.01) Second (2133710 -5.15) Third (2133290 -6.22) Stop 2130580 First (2131419 6.23) Second (2131389 -0.87) Third (2131302 -1.43) Stop 2130089 First (2130577 6.4) Second (2130529 -3.2) Third (2130442 -6.29) Stop 2128875 First (2130092 7.1) Second (2130041 1.65) Third (2129900 -0.65) Stop 2127683 First (2128900 3.62) Second (2128972 0.27) Third (2128735 -4.96) Stop 2126926 First (2127672 4.48) Second (2127669 -1.6) Third (2127435 -3.07) Stop 2126362 First (2126910 8.14) Second (2126886 -0.44) Third (2126850 -3.66) Stop 2125215 First (2126336 8.92) Second (2126252 0.31) Third (2126072 -3.7) Stop 2124247 First (2125212 5.66) Second (2125173 -5.77) Third (2125074 -5.8) Stop 2123765 First (2124244 7.85) Second (2124247 2.03) Third (2124091 -0.48) Stop 2122545 First (2123768 6.14) Second (2123570 -0.17) Third (2123666 -1.87) Stop 2121106 First (2122542 9.33) Second (2122425 -0.89) Third (2122512 -2.97) Stop 2119631 First (2121001 6.42) Second (2121049 -1.35) Third (2120782 -2.47) Stop 2118182 First (2119576 4.64) Second (2119522 -2.31) Third (2119519 -4.05) Stop 2116702 First (2118180 0.92) Second (2118096 -0.36) Third (2117910 -7.37) Stop 2115146 First (2116426 7.78) Second (2116312 -2.16) Third (2116315 -7.17) Stop 2113929 First (2115149 10.86) Second (2115068 -2.12) Third (2114945 -3.58) Stop 2112524 First (2113918 7.34) Second (2113585 -1.65) Third (2113738 -3.37) Stop 2111456 First (2112349 3.32) Second (2112307 1.45) Third (2112301 0.69) Stop 2109998 First (2111083 1.71) Second (2110852 -2.37) Third (2110891 -5.8) Stop 2109099 First (2109998 7.89) Second (2109923 -3.58) Third (2109659 -5.93) Stop 2108160 First (2109041 4.42) Second (2109035 1.03) Third (2108936 -1.27) Stop 2107603 First (2108160 4.41) Second (2108154 -3.53) Third (2108130 -4.14) Stop 2106359 First (2107606 -0.1) Second (2107453 -1.37) Third (2107444 -5.02) Stop 2105248 First (2106351 2.95) Second (2106321 -6.5) Third (2106267 -7.12) Stop 2104082 First (2105248 1.54) Second (2105080 -6.24) Third (2104924 -11.7) Stop 2103087 First (2104079 -0.07) Second (2104085 -0.31) Third (2103752 -4.56) Stop 2102516 First (2103106 6.69) Second (2102908 -2.71) Third (2103040 -4.32) Stop 2101413 First (2102531 3.01) Second (2102456 -7.09) Third (2102468 -8.33) Stop 2100938 First (2101411 -0.09) Second (2101288 -6.66) Third (2101132 -7.39) Stop 2099917 First (2100897 3.84) Second (2100933 1.56) Third (2100720 -1.6) Stop 2099418 First (2099699 -0.15) Second (2099642 -0.27) Third (2099615 -8.92) Stop 2097884 First (2099290 5.42) Second (2099260 1.17) Third (2099251 -0.99) Stop 2096469 First (2097635 2.99) Second (2097476 -3.24) Third (2097560 -3.73) Stop 2095343 First (2096359 5.82) Second (2096323 4.18) Third (2096326 -1.14) Stop 2087484 First (2087735 7.31) Second (2087618 0.93) Third (2087762 -0.03) Stop 2087233 Two predictions First (2087487 3.32) Second (2087334 -4.26) Stop 2086326 First (2087150 8.37) Second (2087111 4.99) Third (2087099 0.35) Stop 2085351 First (2086280 7.37) Second (2086301 3.74) Third (2086256 2.27) Stop 2083726 First (2085084 7.45) Second (2085090 2.5) Third (2084994 1.33) Stop 2082489 First (2083493 4.1) Second (2083547 3.58) Third (2083451 1.52) Stop 2082248 First (2082475 4.84) Second (2082472 2.09) Third (2082397 -0.29) Stop 2079403 First (2080569 1.36) Second (2080446 -0.16) Third (2080368 -3.9) Stop 2078811 First (2079284 7.01) Second (2079182 -0.51) Third (2079185 -2.29) Stop 2077555 First (2078613 3.09) Second (2078448 -5.32) Third (2078553 -5.66) Stop 2077054 First (2077383 6.87) Second (2077446 -0.74) Third (2077449 -2.0)

Stop 2067837 First (2068202 5.75) Second (2068247 0.76) Third (2068115 -1.52) Stop 2066974 First (2067879 2.94) Second (2067765 -2.72) Third (2067630 -4.41) Stop 2064327 First (2065307 5.01) Second (2065343 1.56) Third (2065130 -1.6) Stop 2063241 First (2063783 4.65) Second (2063786 3.2) Third (2063669 -3.83) Stop 2062501 First (2063244 6.17) Second (2063280 -0.31) Third (2063223 -1.15) Stop 2061410 First (2062489 2.22) Second (2062369 -0.98) Third (2062216 -2.96) Stop 2060413 First (2061345 4.56) Second (2061348 3.93) Third (2061246 1.08) Stop 2059038 First (2059955 7.62) Second (2059985 -2.25) Third (2059883 -2.66) Stop 2057986 First (2058864 2.87) Second (2058936 2.5) Third (2058762 -2.38) Stop 2056225 First (2057865 1.55) Second (2057868 0.28) Third (2057679 -3.4) Stop 2050646 First (2051350 7.99) Second (2051332 -5.82) Third (2051227 -6.38) Stop 2050298 First (2050579 0.89) Second (2050624 -3.83) Third (2050465 -5.22) Stop 2036174 First (2036956 -1.73) Second (2036893 -2.77) Third (2036689 -3.95) Stop 2034816 First (2036174 -0.4) Second (2036141 -5.21) Third (2035958 -6.0) Stop 2031141 First (2031443 3.16) Second (2031506 -2.38) Third (2031221 -2.65) Stop 2030406 First (2031101 5.03) Second (2031023 -2.56) Third (2030960 -5.94) Stop 2028921 First (2030339 1.63) Second (2030282 -1.81) Third (2030348 -5.26) Stop 2028470 First (2028940 2.14) Second (2029102 -2.21) Third (2028901 -4.85) Stop 2026471 First (2027388 3.58) Second (2027382 2.48) Third (2027358 1.45) Stop 2026210 First (2026392 9.54) Second (2026341 2.95) Third (2026383 1.92) Stop 2024345 First (2026021 4.43) Second (2026039 4.4) Third (2026003 -1.7) Stop 2022942 First (2023241 1.94) Second (2023205 0.57) Third (2023292 -1.38) Stop 2022657 First (2022845 8.21) Second (2022839 2.04) Third (2022752 -0.04) Stop 2013055 First (2013987 0.92) Second (2013984 -2.13) Third (2013963 -2.98) Stop 2010722 First (2011036 7.38) Second (2010982 2.1) Third (2011066 -2.93) Stop 2010023 First (2010373 8.5) Second (2010073 -2.52) Third (2010175 -6.72) Stop 2009571 First (2009876 -4.82) Second (2009891 -6.22) Third (2009879 -6.34) Stop 2009370 Two predictions First (2009474 4.48) Second (2009561 2.33) Stop 2005700 First (2006113 2.99) Second (2006116 0.53) Third (2006179 -4.84) Stop 2000133 First (2001629 6.59) Second (2001524 -8.39) Third (2001356 -11.94) Stop 1999093 First (1999782 2.41) Second (1999812 0.88) Third (1999743 -8.81) Stop 1998496 First (1999047 6.02) Second (1999044 4.77) Third (1999041 2.75) Stop 1997608 First (1998408 4.39) Second (1998465 2.9) Third (1998375 1.32) Stop 1996517 First (1997503 5.88) Second (1997599 2.35) Third (1997371 -1.37) Stop 1995834 First (1996502 2.77) Second (1996469 -5.6) Third (1996415 -6.25) Stop 1995085 First (1995837 7.5) Second (1995810 -0.5) Third (1995747 -4.32) Stop 1994133 First (1994855 2.24) Second (1994867 -1.69) Third (1994576 -1.92) Stop 1992726 First (1993382 2.46) Second (1993214 -1.67) Third (1993346 -3.38) Stop 1990897 First (1992663 2.39) Second (1992729 0.37) Third (1992495 -11.23) Stop 1990292 First (1990840 1.72) Second (1990819 -2.92) Third (1990777 -6.32) Stop 1988977 First (1989642 6.07) Second (1989534 -1.93) Third (1989456 -2.52) Stop 1987274 First (1987513 11.1) Second (1987477 0.65) Third (1987480 0.6) Stop 1985530 First (1985781 7.26) Second (1985739 -0.73) Third (1985661 -2.27) Stop 1983162 First (1984151 5.28) Second (1984202 2.77) Third (1984103 -3.32) Stop 1981578 First (1983092 4.79) Second (1983110 2.31) Third (1982978 -1.65) Stop 1980862 First (1981563 7.63) Second (1981566 4.43) Third (1981485 1.22) Stop 1980578 First (1980820 0.8) Second (1980688 -2.68) Third (1980838 -4.06) Stop 1979611 First (1980411 2.18) Second (1980468 -4.07) Third (1980033 -6.87) Stop 1978212 First (1979636 6.13) Second (1979642 2.03) Third (1979645 -1.69) Stop 1976964 First (1977239 3.39) Second (1977023 -2.04) Third (1977059 -4.14) Stop 1976542 First (1977045 0.27) Second (1976787 -1.5) Third (1976919 -4.56) Stop 1975871 First (1976221 4.99) Second (1976125 1.99) Third (1976098 -1.78) Stop 1975290 First (1975868 5.77) Second (1975820 3.8) Third (1975787 -2.02)

Stop 1974276 First (1975163 1.74) Second (1975106 -3.7) Third (1974938 -4.33) Stop 1973353 First (1974279 4.7) Second (1974168 -3.6) Third (1974180 -4.3) Stop 1971384 First (1973342 2.25) Second (1973348 1.42) Third (1973402 0.11) Stop 1970860 First (1971363 7.12) Second (1971354 -0.08) Third (1971258 -3.18) Stop 1969054 First (1970715 1.86) Second (1970538 -1.17) Third (1970736 -1.37) Stop 1967407 First (1969008 5.98) Second (1968831 -0.86) Third (1969011 -2.08) Stop 1966528 First (1967388 3.43) Second (1967352 0.11) Third (1967292 -0.43) Stop 1965476 First (1966525 8.47) Second (1966510 1.17) Third (1966483 0.26) Stop 1965072 First (1965461 6.65) Second (1965413 2.18) Third (1965437 -0.62) Stop 1964417 First (1965058 4.41) Second (1965061 3.47) Third (1964815 -1.61) Stop 1963067 First (1964215 -0.11) Second (1964098 -5.83) Third (1963810 -7.03) Stop 1960996 First (1963074 1.4) Second (1963056 -1.79) Third (1962996 -4.03) Stop 1960604 First (1960936 1.11) Second (1960996 0.67) Third (1960840 -1.17) Stop 1957304 First (1957870 4.06) Second (1957876 -0.49) Third (1957660 -5.92) Stop 1956544 First (1957290 10.25) Second (1957260 -2.13) Third (1957173 -2.38) Stop 1955056 First (1956156 7.31) Second (1956123 -2.28) Third (1956108 -3.1) Stop 1952602 First (1955031 10.69) Second (1954971 -0.26) Third (1954893 -0.31) Stop 1946774 First (1948546 8.26) Second (1948495 0.44) Third (1948435 -0.84) Stop 1946204 First (1946713 4.3) Second (1946644 2.92) Third (1946695 0.92) Stop 1945435 First (1946175 8.07) Second (1945995 -3.56) Third (1945932 -5.13) Stop 1944879 First (1945400 4.32) Second (1945364 -0.34) Third (1945403 -0.35) Stop 1943389 First (1944000 4.16) Second (1943913 0.34) Third (1943919 -1.56) Stop 1942370 First (1943380 7.23) Second (1943260 1.33) Third (1943083 -5.38) Stop 1939675 First (1940733 0.31) Second (1940661 -2.92) Third (1940607 -4.7) Stop 1938337 First (1939659 3.92) Second (1939596 -4.56) Third (1939593 -7.14) Stop 1937246 First (1938217 1.64) Second (1938121 -1.49) Third (1937842 -7.12) Stop 1932863 First (1934338 8.55) Second (1934131 -2.18) Third (1934263 -7.35) Stop 1930817 First (1932628 5.64) Second (1932616 -3.95) Third (1932265 -6.31) Stop 1930139 First (1930780 4.31) Second (1930687 -1.48) Third (1930693 -2.28) Stop 1928481 First (1928771 6.03) Second (1928723 5.86) Third (1928681 -0.42) Stop 1928058 First (1928414 6.82) Second (1928426 0.38) Third (1928381 -1.59) Stop 1927072 First (1927731 10.28) Second (1927653 -1.77) Third (1927638 -5.58) Stop 1924803 First (1926863 3.5) Second (1926830 -3.82) Third (1926479 -5.82) Stop 1922619 First (1922993 6.59) Second (1922936 -5.4) Third (1922939 -6.7) Stop 1921743 First (1922615 -1.18) Second (1922411 -1.39) Third (1922543 -3.16) Stop 1921389 First (1921727 3.74) Second (1921730 3.73) Third (1921544 -4.24) Stop 1920337 First (1920993 10.37) Second (1920996 5.53) Third (1920747 -1.99) Stop 1913655 First (1914206 4.0) Second (1914152 2.69) Third (1914101 -2.21) Stop 1912860 First (1913558 6.98) Second (1913540 -0.05) Third (1913390 -4.42) Stop 1910792 First (1912840 6.21) Second (1912834 1.71) Third (1912888 0.22) Stop 1909719 First (1910600 4.82) Second (1910489 3.04) Third (1910597 2.56) Stop 1907332 First (1908123 7.13) Second (1908078 -2.71) Third (1907943 -3.29) Stop 1906647 First (1906790 1.65) Second (1906712 0.56) Third (1906715 -0.51) Stop 1906285 First (1906572 4.3) Second (1906545 0.76) Third (1906491 -2.88) Stop 1905472 First (1905615 4.35) Second (1905504 -5.37) Third (1905519 -8.07) Stop 1905250 Two predictions First (1905459 7.82) Second (1905375 -4.22) Stop 1904275 First (1905084 4.89) Second (1904922 -1.6) Third (1904925 -2.42) Stop 1901202 First (1901825 -4.17) Second (1901963 -6.0) Third (1901936 -6.17) Stop 1898053 First (1899609 6.06) Second (1899597 5.26) Third (1899321 -3.49) Stop 1892576 First (1892755 8.88) Second (1892686 3.47) Third (1892674 -1.06) Stop 1891292 First (1891678 -1.62) Second (1891654 -4.52) Third (1891444 -7.7) Stop 1889349 First (1891259 6.21) Second (1891181 0.48) Third (1891133 -4.74) Stop 1888596 First (1889291 3.02) Second (1889027 -2.18) Third (1889000 -6.74)

Stop 1887975 First (1888556 6.9) Second (1888502 -1.47) Third (1888424 -3.39) Stop 1886085 First (1887836 7.1) Second (1887803 3.1) Third (1887626 2.79) Stop 1884888 First (1886003 3.13) Second (1886015 1.99) Third (1885973 -5.09) Stop 1878910 First (1879833 1.8) Second (1879854 -1.65) Third (1879761 -3.1) Stop 1878145 First (1878783 2.34) Second (1878723 -2.19) Third (1878666 -3.71) Stop 1877613 First (1877972 10.32) Second (1877777 -5.02) Third (1877837 -5.22) Stop 1877427 First (1877609 6.04) Second (1877531 1.63) Third (1877588 -0.89) Stop 1877031 First (1877279 6.88) Second (1877189 6.15) Third (1877219 0.51) Stop 1875302 First (1875556 5.44) Second (1875406 -1.12) Third (1875460 -3.15) Stop 1872779 First (1873597 3.31) Second (1873600 2.05) Third (1873588 -2.94) Stop 1872102 First (1872206 5.09) Second (1872194 0.08) Third (1872236 -2.15) Stop 1863750 First (1864496 4.03) Second (1864466 -4.7) Third (1864169 -5.95) Stop 1862806 First (1863660 9.54) Second (1863591 2.43) Third (1863648 -1.29) Stop 1860040 First (1860453 2.17) Second (1860468 0.79) Third (1860393 -2.99) Stop 1859726 First (1859998 5.68) Second (1859947 -1.65) Third (1860043 -2.38) Stop 1858280 First (1859356 6.74) Second (1859290 -1.08) Third (1859269 -2.17) Stop 1856874 First (1858253 6.0) Second (1858181 -3.18) Third (1858043 -7.26) Stop 1855814 First (1856857 4.48) Second (1856818 2.86) Third (1856836 -2.59) Stop 1854957 First (1855793 7.96) Second (1855703 -0.34) Third (1855709 -0.94) Stop 1854005 First (1854952 2.42) Second (1854973 0.33) Third (1854841 -1.46) Stop 1853015 First (1853995 4.9) Second (1853950 -1.75) Third (1853944 -6.05) Stop 1852120 First (1852878 3.56) Second (1852842 2.77) Third (1852806 -3.1) Stop 1850645 First (1852003 4.87) Second (1851964 -2.83) Third (1851619 -3.53) Stop 1846149 First (1846700 9.43) Second (1846577 0.84) Third (1846682 -0.97) Stop 1844989 First (1846032 6.39) Second (1845732 1.86) Third (1846038 1.37) Stop 1843023 First (1844984 3.2) Second (1845041 -2.88) Third (1844978 -5.15) Stop 1841855 First (1842895 1.86) Second (1842958 -1.06) Third (1843018 -1.17) Stop 1839887 First (1840159 4.05) Second (1840147 -2.52) Third (1840060 -7.11) Stop 1838807 First (1839427 5.53) Second (1839388 -1.53) Third (1839391 -1.65) Stop 1828786 First (1830006 5.05) Second (1829967 -1.5) Third (1829910 -3.38) Stop 1827755 First (1828786 6.29) Second (1828789 5.38) Third (1828615 -1.47) Stop 1826280 First (1827758 6.28) Second (1827815 2.37) Third (1827707 -3.95) Stop 1824940 First (1826283 4.24) Second (1826139 2.87) Third (1826103 -3.86) Stop 1823979 First (1824947 7.72) Second (1824809 -3.68) Third (1824851 -5.31) Stop 1823164 First (1823649 8.74) Second (1823499 0.25) Third (1823538 -2.01) Stop 1822386 First (1822961 5.62) Second (1822946 2.1) Third (1822937 -1.19) Stop 1819942 First (1820280 6.95) Second (1820268 2.32) Third (1820154 -1.59) Stop 1819323 First (1819643 7.12) Second (1819604 -2.68) Third (1819577 -2.73) Stop 1817880 First (1819238 7.68) Second (1819109 0.37) Third (1818959 -3.27) Stop 1817479 First (1817826 4.33) Second (1817829 2.58) Third (1817766 0.19) Stop 1816629 First (1817468 7.85) Second (1817471 4.7) Third (1817417 -1.32) Stop 1815172 First (1816524 6.35) Second (1816434 -5.47) Third (1816329 -6.7) Stop 1814410 First (1815159 6.75) Second (1814982 -1.57) Third (1814943 -2.77) Stop 1811445 First (1811708 2.88) Second (1811687 1.84) Third (1811699 -2.74) Stop 1810353 First (1811156 5.3) Second (1811168 1.65) Third (1811063 1.56) Stop 1806721 First (1807257 6.03) Second (1807203 -1.74) Third (1807152 -2.71) Stop 1803349 First (1804059 3.78) Second (1804107 3.6) Third (1804098 -2.57) Stop 1798666 First (1800594 6.9) Second (1800534 2.29) Third (1800225 -5.93) Stop 1798120 First (1798554 -3.35) Second (1798461 -5.31) Third (1798155 -9.15) Stop 1797826 First (1798023 5.13) Second (1798038 -2.12) Third (1797879 -5.68) Stop 1797417 Two predictions First (1797773 7.57) Second (1797722 -2.16) Stop 1797250 One prediction (1797294 4.38) Stop 1795983 First (1796966 6.73) Second (1796978 0.98) Third (1796843 -2.36)

Stop 1793581 First (1795968 6.6) Second (1795890 -2.74) Third (1795770 -5.51) Stop 1793277 First (1793576 6.85) Second (1793555 2.36) Third (1793447 -2.91) Stop 1792196 First (1793176 1.96) Second (1793110 -5.1) Third (1792948 -6.35) Stop 1791582 First (1792133 7.63) Second (1791857 1.23) Third (1791959 1.07) Stop 1790833 First (1791489 1.33) Second (1791582 0.95) Third (1791570 0.5) Stop 1790291 First (1790755 6.49) Second (1790560 -2.88) Third (1790554 -3.32) Stop 1789331 First (1790044 6.08) Second (1790032 -0.98) Third (1789594 -8.38) Stop 1787832 First (1789268 9.57) Second (1789079 -4.4) Third (1789232 -6.07) Stop 1782758 First (1785136 3.4) Second (1785037 0.25) Third (1785085 -2.57) Stop 1776414 First (1777325 7.67) Second (1777112 -7.9) Third (1777115 -8.11) Stop 1763653 First (1766709 6.72) Second (1766403 -3.0) Third (1766655 -3.86) Stop 1763246 First (1763656 9.07) Second (1763599 2.36) Third (1763614 2.11) Stop 1762958 First (1763146 4.21) Second (1763227 -3.25) Third (1763176 -4.58) Stop 1762042 First (1762410 7.62) Second (1762404 5.0) Third (1762299 -1.15) Stop 1760546 First (1762033 4.7) Second (1762072 1.88) Third (1761910 -1.95) Stop 1759790 First (1760536 8.81) Second (1760440 0.18) Third (1760293 -0.49) Stop 1758544 First (1759815 7.88) Second (1759536 -7.05) Third (1759767 -7.33) Stop 1757327 First (1758547 8.97) Second (1758484 0.37) Third (1758508 -1.23) Stop 1756898 First (1757314 9.96) Second (1757305 0.47) Third (1757140 -1.32) Stop 1755745 First (1756749 10.42) Second (1756734 -3.73) Third (1756401 -3.91) Stop 1752956 First (1753165 5.26) Second (1753126 0.48) Third (1752988 -0.04) Stop 1751875 First (1752501 7.51) Second (1752318 -0.47) Third (1752447 -3.53) Stop 1749752 First (1751854 4.81) Second (1751878 -0.43) Third (1751938 -1.73) Stop 1749101 First (1749739 6.49) Second (1749721 0.86) Third (1749748 -0.58) Stop 1748369 First (1749037 6.42) Second (1749088 1.62) Third (1748923 -0.65) Stop 1747587 First (1748372 5.87) Second (1748255 -1.17) Third (1748321 -2.02) Stop 1746771 First (1747535 3.28) Second (1747370 0.4) Third (1747583 -0.58) Stop 1742895 First (1744151 7.68) Second (1744127 -0.11) Third (1743998 -0.11) Stop 1740625 First (1741266 7.12) Second (1741173 1.03) Third (1741230 0.38) Stop 1736890 First (1737822 3.27) Second (1737687 -5.89) Third (1737597 -6.69) Stop 1734145 First (1735314 7.14) Second (1735242 4.75) Third (1735035 -1.46) Stop 1731778 First (1732125 7.92) Second (1732065 -2.49) Third (1731858 -5.21) Stop 1723705 First (1724067 3.41) Second (1723944 2.69) Third (1724103 -0.1) Stop 1722760 First (1723656 7.59) Second (1723572 2.86) Third (1723584 0.77) Stop 1722158 First (1722679 5.72) Second (1722694 2.81) Third (1722730 -0.05) Stop 1718414 First (1718848 4.53) Second (1718854 2.49) Third (1718812 -4.86) Stop 1716517 First (1717626 7.22) Second (1717599 -1.33) Third (1717566 -4.37) Stop 1716090 First (1716413 3.69) Second (1716419 3.4) Third (1716389 -3.59) Stop 1715375 First (1716031 3.05) Second (1715875 -2.68) Third (1716013 -2.72) Stop 1713972 First (1715246 2.58) Second (1715192 -1.04) Third (1715258 -3.39) Stop 1713050 First (1713910 4.37) Second (1713838 1.45) Third (1713913 1.44) Stop 1701292 First (1702332 4.76) Second (1702371 2.92) Third (1702347 1.24) Stop 1696176 First (1697204 7.65) Second (1697054 -1.37) Third (1697129 -2.21) Stop 1695297 First (1696064 8.0) Second (1695749 -7.84) Third (1695743 -7.91) Stop 1694486 First (1695064 3.93) Second (1695073 0.49) Third (1695076 0.05) Stop 1692284 First (1694095 8.17) Second (1693957 -3.82) Third (1693783 -5.55) Stop 1690914 First (1692287 10.39) Second (1692194 0.6) Third (1692212 -1.36) Stop 1689610 First (1690875 4.65) Second (1690857 1.22) Third (1690863 1.15) Stop 1684755 First (1686401 4.01) Second (1686284 -1.3) Third (1686221 -5.75) Stop 1683209 First (1684612 8.54) Second (1684582 1.88) Third (1684495 1.61) Stop 1679719 First (1680054 7.45) Second (1680009 -4.0) Third (1679868 -5.2) Stop 1674395 First (1675927 5.7) Second (1675942 0.31) Third (1675981 0.16) Stop 1672996 First (1674384 9.87) Second (1674195 -2.16) Third (1674147 -4.12)

Stop 1671160 First (1671525 7.78) Second (1671408 -2.74) Third (1671462 -2.82) Stop 1670844 First (1671173 9.04) Second (1670993 -3.26) Third (1671098 -3.79) Stop 1666723 First (1667616 3.61) Second (1667181 -5.51) Third (1667334 -7.81) Stop 1665368 First (1666588 3.72) Second (1666429 -5.03) Third (1666411 -6.19) Stop 1664548 First (1665243 3.71) Second (1665192 2.54) Third (1665255 0.15) Stop 1654771 First (1655517 -0.54) Second (1655481 -2.51) Third (1655304 -4.15) Stop 1653371 First (1653697 4.23) Second (1653457 -5.58) Third (1653628 -6.99) Stop 1651951 First (1653165 5.61) Second (1653198 1.57) Third (1653039 -4.78) Stop 1650920 First (1651939 8.02) Second (1651963 -1.05) Third (1651849 -3.29) Stop 1647434 First (1647769 0.82) Second (1647691 -1.81) Third (1647724 -3.5) Stop 1645644 First (1645874 6.0) Second (1645754 2.14) Third (1645805 -1.09) Stop 1645370 First (1645660 4.92) Second (1645600 1.17) Third (1645552 -4.45) Stop 1645198 One prediction (1645347 -2.08) Stop 1643657 First (1643896 7.11) Second (1643797 0.06) Third (1643830 -0.02) Stop 1643370 First (1643657 5.03) Second (1643519 -1.88) Third (1643582 -4.69) Stop 1643143 First (1643298 7.8) Second (1643280 1.82) Third (1643241 -2.56) Stop 1642675 First (1642923 5.3) Second (1642926 4.01) Third (1642830 -1.6) Stop 1641279 First (1642328 3.12) Second (1642205 -0.61) Third (1642283 -2.88) Stop 1640513 First (1641265 5.4) Second (1641163 -0.19) Third (1641145 -3.97) Stop 1639363 First (1639578 4.52) Second (1639566 -2.4) Third (1639491 -5.71) Stop 1638394 First (1638609 3.85) Second (1638600 2.97) Third (1638684 -1.01) Stop 1638078 First (1638389 7.15) Second (1638266 0.94) Third (1638365 -5.03) Stop 1637548 First (1637964 1.69) Second (1638081 0.77) Third (1637910 -2.72) Stop 1637054 First (1637551 3.81) Second (1637536 -2.22) Third (1637521 -5.32) Stop 1636479 First (1636691 3.51) Second (1636679 0.02) Third (1636667 -2.24) Stop 1635978 First (1636133 4.03) Second (1636154 1.86) Third (1636169 -1.72) Stop 1635633 First (1635806 4.08) Second (1635677 0.2) Third (1635809 -0.24) Stop 1633822 First (1634313 4.34) Second (1634391 3.18) Third (1634277 -1.63) Stop 1632909 First (1633871 1.73) Second (1633811 -0.77) Third (1633757 -0.79) Stop 1632334 First (1632909 5.01) Second (1632897 0.99) Third (1632567 -8.47) Stop 1629026 First (1630216 -0.01) Second (1630234 -0.54) Third (1630309 -0.62) Stop 1627477 First (1628937 6.08) Second (1628925 1.37) Third (1628523 -6.81) Stop 1623359 First (1625404 5.49) Second (1625470 0.09) Third (1625395 -1.34) Stop 1622129 First (1622521 9.26) Second (1622482 0.64) Third (1622374 -1.91) Stop 1620984 First (1621874 6.79) Second (1621880 -1.65) Third (1621841 -3.58) Stop 1618262 First (1619161 5.9) Second (1619074 2.99) Third (1619101 2.89) Stop 1616267 First (1616932 5.56) Second (1616830 1.27) Third (1616737 -1.58) Stop 1611339 First (1612727 7.24) Second (1612751 -1.33) Third (1612664 -3.47) Stop 1610349 First (1611275 5.44) Second (1611263 1.95) Third (1611236 -2.15) Stop 1609990 First (1610349 3.7) Second (1610160 -2.43) Third (1610280 -4.79) Stop 1608931 First (1609878 -1.68) Second (1609830 -3.03) Third (1609767 -3.64) Stop 1607253 First (1608704 3.2) Second (1608563 -5.04) Third (1608365 -10.44) Stop 1606132 First (1607046 1.81) Second (1606779 -1.79) Third (1607097 -2.66) Stop 1598312 First (1599265 3.19) Second (1599229 -2.24) Third (1598881 -4.37) Stop 1596641 First (1598233 7.88) Second (1598191 1.86) Third (1598071 -0.61) Stop 1592133 First (1596110 5.83) Second (1596092 -2.74) Third (1595825 -6.5) Stop 1590689 First (1592017 -0.81) Second (1592089 -2.13) Third (1591969 -5.48) Stop 1590200 First (1590463 2.46) Second (1590466 1.08) Third (1590484 -1.6) Stop 1588878 First (1590200 4.73) Second (1590257 1.0) Third (1590179 -2.12) Stop 1588381 First (1588560 3.34) Second (1588506 -0.34) Third (1588416 -7.01) Stop 1586877 First (1588025 -2.9) Second (1587812 -6.89) Third (1587623 -8.09) Stop 1586333 First (1586863 7.46) Second (1586500 -4.98) Third (1586512 -9.1) Stop 1585817 First (1586320 4.01) Second (1586071 -7.76) Third (1586059 -8.02)

Stop 1584844 First (1585758 3.72) Second (1585707 -4.54) Third (1585389 -7.94) Stop 1582231 First (1584510 5.81) Second (1584399 1.61) Third (1584426 0.12) Stop 1581786 First (1581926 0.06) Second (1581983 -0.47) Third (1581842 -0.65) Stop 1580950 First (1581711 7.77) Second (1581618 1.61) Third (1581438 -5.2) Stop 1578866 First (1580548 4.36) Second (1580485 -2.31) Third (1580581 -4.0) Stop 1577657 First (1578814 3.02) Second (1578715 -3.86) Third (1578829 -6.83) Stop 1575681 First (1577366 -1.41) Second (1577246 -3.11) Third (1577339 -4.15) Stop 1573271 First (1575643 5.77) Second (1575571 -0.01) Third (1575547 -0.85) Stop 1570431 First (1573214 4.3) Second (1573226 -2.02) Third (1573184 -4.16) Stop 1568669 First (1570069 7.14) Second (1570099 -0.4) Third (1570138 -1.25) Stop 1566978 First (1568513 9.75) Second (1568441 0.19) Third (1568435 -2.29) Stop 1565528 First (1566847 3.24) Second (1566739 -4.57) Third (1566682 -6.87) Stop 1563782 First (1565164 6.98) Second (1565158 3.03) Third (1565143 1.52) Stop 1561358 First (1563757 6.42) Second (1563781 4.26) Third (1563691 1.39) Stop 1560519 First (1561100 4.15) Second (1561040 -1.04) Third (1560908 -4.3) Stop 1558955 First (1560505 2.7) Second (1560643 -1.08) Third (1560634 -4.56) Stop 1557931 First (1558953 3.13) Second (1558902 1.29) Third (1558905 0.01) Stop 1557038 First (1557931 8.27) Second (1557934 5.9) Third (1557835 -1.86) Stop 1556055 First (1557041 10.09) Second (1556738 -4.25) Third (1556876 -4.75) Stop 1555136 First (1556062 9.11) Second (1555876 -3.58) Third (1555684 -5.69) Stop 1554089 First (1554304 6.07) Second (1554367 -0.5) Third (1554193 -2.63) Stop 1553850 One prediction (1553987 10.96) Stop 1551996 First (1553693 2.52) Second (1553702 1.1) Third (1553720 1.0) Stop 1550852 First (1551862 10.0) Second (1551892 -1.08) Third (1551772 -1.15) Stop 1550422 First (1550706 2.92) Second (1550784 1.83) Third (1550700 0.06) Stop 1548449 First (1549390 -1.47) Second (1549393 -2.07) Third (1549309 -2.59) Stop 1544312 First (1545136 3.17) Second (1545193 2.04) Third (1545127 -2.72) Stop 1543762 First (1544052 7.01) Second (1544031 -2.96) Third (1544016 -3.24) Stop 1542782 First (1543738 1.94) Second (1543702 -2.97) Third (1543516 -7.23) Stop 1542408 First (1542743 -3.0) Second (1542734 -3.23) Third (1542548 -3.58) Stop 1540696 First (1542084 3.42) Second (1542048 -7.09) Third (1542096 -7.52) Stop 1536874 First (1540614 5.18) Second (1540539 -0.36) Third (1540671 -0.94) Stop 1535333 First (1536877 11.05) Second (1536772 -0.18) Third (1536634 -1.76) Stop 1534638 First (1535333 8.26) Second (1535252 0.26) Third (1535303 -1.7) Stop 1533961 First (1534641 9.32) Second (1534515 -0.88) Third (1534431 -4.05) Stop 1532989 First (1533882 8.37) Second (1533780 -1.0) Third (1533870 -2.07) Stop 1531306 First (1531875 5.34) Second (1531923 -2.76) Third (1531767 -2.95) Stop 1522505 First (1524004 6.45) Second (1523917 3.36) Third (1524055 2.67) Stop 1518987 First (1521089 0.78) Second (1521005 -0.64) Third (1520927 -0.87) Stop 1516352 First (1517104 0.98) Second (1516870 -2.06) Third (1516990 -3.6) Stop 1515906 First (1516355 3.04) Second (1516217 -2.0) Third (1516181 -3.0) Stop 1507274 First (1507378 -2.25) Second (1507396 -6.43) Third (1507471 -7.5) Stop 1506858 First (1507088 4.57) Second (1507028 4.06) Third (1507001 0.62) Stop 1502929 First (1504197 -1.2) Second (1504104 -2.09) Third (1504161 -5.42) Stop 1501386 First (1501673 3.48) Second (1501658 -3.91) Third (1501610 -4.2) Stop 1497493 First (1498473 4.43) Second (1498404 -4.55) Third (1498320 -5.68) Stop 1496456 First (1496584 -1.96) Second (1496647 -2.52) Third (1496467 -3.98) Stop 1492172 First (1493236 -2.05) Second (1493095 -4.82) Third (1493164 -7.0) Stop 1489986 Two predictions First (1490153 5.27) Second (1490072 -7.52) Stop 1487985 First (1488221 -6.99) Second (1488362 -7.21) Third (1488386 -8.87) Stop 1480279 First (1480884 7.51) Second (1480824 -4.37) Third (1480599 -9.61) Stop 1466808 First (1467173 5.49) Second (1467218 -0.51) Third (1467086 -1.21) Stop 1465945 First (1466850 1.94) Second (1466736 -2.06) Third (1466769 -4.12)

Stop 1449621 First (1451666 6.18) Second (1451546 1.48) Third (1451567 -0.89) Stop 1447100 First (1449373 7.22) Second (1449409 -2.5) Third (1449256 -3.95) Stop 1444402 First (1445307 -0.01) Second (1445061 -3.87) Third (1445295 -4.21) Stop 1439878 First (1440867 7.24) Second (1440813 -2.67) Third (1440366 -9.33) Stop 1439345 First (1439767 4.58) Second (1439728 2.02) Third (1439779 0.33) Stop 1435284 First (1438808 7.81) Second (1438649 -0.17) Third (1438544 -2.88) Stop 1433784 First (1434917 6.95) Second (1434536 -7.38) Third (1434563 -9.09) Stop 1433209 First (1433643 7.47) Second (1433715 -2.19) Third (1433586 -4.34) Stop 1432015 First (1432248 5.42) Second (1432173 -1.32) Third (1432281 -1.8) Stop 1431108 First (1431698 4.35) Second (1431359 -4.51) Third (1431446 -4.62) Stop 1427570 First (1428307 -0.07) Second (1428319 -4.79) Third (1428106 -9.9) Stop 1425770 First (1426750 5.97) Second (1426642 -3.94) Third (1426573 -4.38) Stop 1423789 One prediction (1424055 -5.26) Stop 1417789 First (1418265 7.49) Second (1417869 -8.96) Third (1417863 -10.33) Stop 1417346 First (1417480 5.46) Second (1417477 2.01) Third (1417525 0.92) Stop 1417180 First (1417335 1.55) Second (1417257 -0.75) Third (1417299 -7.89) Stop 1416032 First (1416253 4.76) Second (1416265 -0.4) Third (1416088 -4.5) Stop 1415862 First (1416032 5.14) Second (1416038 3.06) Third (1416035 -0.64) Stop 1415512 First (1415787 7.53) Second (1415835 0.98) Third (1415826 -0.48) Stop 1412810 First (1415410 6.27) Second (1415059 -2.81) Third (1415158 -4.16) Stop 1412008 First (1412817 5.06) Second (1412823 3.67) Third (1412874 2.06) Stop 1411757 First (1411951 2.81) Second (1411963 0.75) Third (1411990 -1.32) Stop 1411555 First (1411764 5.4) Second (1411776 2.16) Third (1411770 -3.36) Stop 1411261 First (1411476 4.2) Second (1411428 -0.66) Third (1411446 -0.77) Stop 1410024 First (1411259 1.61) Second (1411040 -2.43) Third (1411202 -2.74) Stop 1409037 First (1409972 4.23) Second (1409846 1.41) Third (1409870 -0.72) Stop 1404587 First (1405819 4.03) Second (1405879 1.6) Third (1405564 -6.01) Stop 1401279 First (1402589 5.99) Second (1402580 -1.07) Third (1402604 -1.08) Stop 1399834 First (1401279 5.24) Second (1400817 -9.01) Third (1400790 -9.38) Stop 1398271 First (1399797 4.61) Second (1399791 4.58) Third (1399803 -1.33) Stop 1397745 First (1398260 0.8) Second (1398209 -2.14) Third (1398149 -2.39) Stop 1396798 First (1397550 2.72) Second (1397592 1.88) Third (1397607 -1.71) Stop 1395696 First (1396646 8.58) Second (1396640 3.64) Third (1396586 -1.66) Stop 1392915 First (1393946 5.98) Second (1393871 -1.68) Third (1393880 -5.52) Stop 1388957 First (1389874 5.63) Second (1389877 4.21) Third (1389889 -1.67) Stop 1387894 First (1388622 2.19) Second (1388682 -0.81) Third (1388550 -2.94) Stop 1386329 First (1386835 6.96) Second (1386691 -3.69) Third (1386745 -6.61) Stop 1380987 First (1381985 6.72) Second (1381877 -2.08) Third (1381796 -3.24) Stop 1364959 First (1365936 2.05) Second (1365843 -1.4) Third (1365951 -2.84) Stop 1357514 First (1358932 3.47) Second (1359010 -1.44) Third (1358656 -4.42) Stop 1355826 First (1357211 9.96) Second (1357124 -0.11) Third (1357265 -2.21) Stop 1355447 First (1355692 8.65) Second (1355524 -3.15) Third (1355563 -4.44) Stop 1353491 First (1355134 3.7) Second (1355110 -2.56) Third (1355092 -4.06) Stop 1352529 First (1353494 7.44) Second (1353362 -3.64) Third (1353263 -3.8) Stop 1351652 First (1352542 6.36) Second (1352455 -2.05) Third (1352248 -6.21) Stop 1350660 First (1351652 8.48) Second (1351571 2.81) Third (1351451 -6.31) Stop 1349852 First (1350658 5.56) Second (1350637 -3.57) Third (1350562 -4.72) Stop 1349431 First (1349733 -2.8) Second (1349784 -4.46) Third (1349658 -7.93) Stop 1348275 First (1349063 7.8) Second (1348982 -6.68) Third (1348901 -8.93) Stop 1347004 First (1348131 4.17) Second (1348209 -2.82) Third (1348173 -7.84) Stop 1345002 First (1346936 3.24) Second (1346774 -1.16) Third (1346864 -4.38) Stop 1342781 First (1344766 6.33) Second (1344739 2.29) Third (1344679 -5.61) Stop 1341621 First (1342370 2.63) Second (1342340 -2.98) Third (1342175 -7.64)

Stop 1341134 First (1341352 8.08) Second (1341331 3.93) Third (1341298 -3.03) Stop 1336594 First (1337184 6.11) Second (1337127 0.93) Third (1337247 -0.63) Stop 1328441 First (1328692 11.08) Second (1328494 -4.46) Third (1328503 -6.36) Stop 1326378 First (1327136 8.82) Second (1327049 -1.24) Third (1327088 -3.04) Stop 1325791 First (1326381 6.46) Second (1326321 -3.49) Third (1326123 -3.96) Stop 1321062 One prediction (1321106 6.37) Stop 1319408 First (1320970 5.84) Second (1320541 -6.73) Third (1320889 -8.28) Stop 1317813 First (1319408 7.37) Second (1319324 -2.77) Third (1319327 -3.1) Stop 1316451 First (1317809 7.6) Second (1317812 5.72) Third (1317401 -9.47) Stop 1315246 First (1316439 6.2) Second (1316397 -0.88) Third (1316376 -5.73) Stop 1314440 First (1315246 8.14) Second (1315147 -4.93) Third (1315216 -7.66) Stop 1313880 First (1314059 7.59) Second (1314083 1.36) Third (1314116 -1.27) Stop 1313852 First (1314091 -0.97) Second (1313956 -1.62) Third (1313905 -5.93) Stop 1313294 First (1313794 6.29) Second (1313788 4.36) Third (1313842 -0.75) Stop 1312742 First (1313248 7.27) Second (1313179 0.93) Third (1313200 -0.26) Stop 1310944 First (1311687 6.43) Second (1311627 0.0) Third (1311615 -4.35) Stop 1310375 First (1310914 4.73) Second (1310767 0.96) Third (1310809 -7.3) Stop 1309872 First (1310270 3.49) Second (1310159 -0.83) Third (1310087 -1.16) Stop 1308593 First (1308985 0.81) Second (1308886 -0.79) Third (1308889 -1.04) Stop 1307040 First (1308293 2.72) Second (1308311 -0.66) Third (1308173 -3.62) Stop 1305209 First (1306669 7.21) Second (1306618 0.72) Third (1306585 -0.77) Stop 1304845 First (1305174 2.91) Second (1305168 0.23) Third (1305252 -4.21) Stop 1294669 First (1297344 7.63) Second (1297191 -4.96) Third (1297149 -5.71) Stop 1294191 First (1294421 1.45) Second (1294304 0.6) Third (1294244 0.3) Stop 1293649 First (1294239 0.88) Second (1294059 -8.78) Third (1294041 -9.12) Stop 1291732 First (1292145 1.38) Second (1292061 -3.09) Third (1291956 -11.35) Stop 1287897 First (1288355 5.21) Second (1288256 -2.49) Third (1288376 -2.92) Stop 1287005 First (1287847 4.51) Second (1287700 0.69) Third (1287622 -6.44) Stop 1286310 Two predictions First (1286399 2.64) Second (1286411 -0.59) Stop 1275045 First (1276841 6.65) Second (1276754 1.11) Third (1276679 0.6) Stop 1274402 First (1275052 5.22) Second (1275166 -1.52) Third (1275118 -2.46) Stop 1272469 First (1272822 9.4) Second (1272771 2.53) Third (1272810 -0.9) Stop 1269972 First (1271159 4.37) Second (1271072 4.35) Third (1270796 -8.29) Stop 1267349 First (1268125 -2.4) Second (1268296 -3.03) Third (1268110 -3.04) Stop 1262100 First (1262723 3.7) Second (1262672 -5.74) Third (1262525 -7.28) Stop 1261249 First (1262100 4.96) Second (1261719 -5.83) Third (1261803 -7.41) Stop 1260151 First (1261164 3.85) Second (1261098 1.11) Third (1261089 -3.04) Stop 1258347 First (1260026 2.58) Second (1259999 -2.72) Third (1260002 -5.49) Stop 1257152 First (1257736 2.72) Second (1257724 -2.45) Third (1257535 -5.0) Stop 1255944 First (1257035 6.85) Second (1256900 0.76) Third (1257008 -6.16) Stop 1252308 First (1255175 5.95) Second (1254938 -8.24) Third (1255073 -9.15) Stop 1248991 First (1250061 7.03) Second (1250091 2.39) Third (1249887 -1.55) Stop 1248348 First (1248980 7.89) Second (1249055 1.39) Third (1248857 0.6) Stop 1246919 First (1248337 6.3) Second (1248340 1.12) Third (1248268 -0.67) Stop 1244902 First (1246599 8.43) Second (1246602 1.77) Third (1246566 -0.08) Stop 1244005 First (1244253 -0.02) Second (1244136 -1.89) Third (1244274 -2.06) Stop 1243016 First (1243750 3.98) Second (1243684 -4.08) Third (1243696 -4.71) Stop 1241389 First (1242303 4.57) Second (1242030 -7.59) Third (1241769 -8.29) Stop 1239558 First (1241294 1.98) Second (1241108 -6.96) Third (1241036 -7.71) Stop 1234932 First (1236464 5.75) Second (1236425 1.74) Third (1236446 -0.09) Stop 1232399 First (1233940 6.79) Second (1233970 -1.44) Third (1233994 -2.09) Stop 1231723 First (1232253 2.81) Second (1232202 1.45) Third (1232250 0.2) Stop 1228706 First (1229617 1.82) Second (1229623 -0.04) Third (1229761 -1.69)

Stop 1226294 First (1226695 7.11) Second (1226665 -1.53) Third (1226512 -3.8) Stop 1224608 First (1225303 5.96) Second (1225318 -2.58) Third (1225255 -3.39) Stop 1223772 First (1224584 6.5) Second (1224479 -0.25) Third (1224437 -2.76) Stop 1223502 First (1223768 9.15) Second (1223591 -2.49) Third (1223534 -5.33) Stop 1221867 First (1222211 0.48) Second (1222172 -1.18) Third (1222151 -2.16) Stop 1221528 First (1221857 5.94) Second (1221860 2.08) Third (1221863 0.08) Stop 1213487 First (1214698 -0.72) Second (1214605 -3.68) Third (1214521 -4.16) Stop 1212551 First (1213282 3.7) Second (1213198 -5.92) Third (1213018 -6.68) Stop 1211926 First (1212330 4.72) Second (1212096 -2.87) Third (1212303 -3.28) Stop 1210903 First (1211226 4.44) Second (1211154 1.2) Third (1211148 0.75) Stop 1208342 First (1208878 2.06) Second (1208881 0.46) Third (1208836 -4.68) Stop 1207740 First (1208342 7.35) Second (1208123 -4.13) Third (1207982 -9.1) Stop 1204757 One prediction (1204993 -6.45) Stop 1201482 First (1202156 5.2) Second (1202075 -3.4) Third (1202003 -3.42) Stop 1200999 First (1201307 6.9) Second (1201208 0.29) Third (1201292 -0.32) Stop 1200292 First (1200603 -3.12) Second (1200600 -3.38) Third (1200546 -4.74) Stop 1200010 First (1200255 6.3) Second (1200246 -1.64) Third (1200141 -2.21) Stop 1198902 First (1200029 2.95) Second (1199930 -1.99) Third (1199909 -3.73) Stop 1196756 First (1197451 3.36) Second (1197460 -1.33) Third (1197421 -2.43) Stop 1196090 First (1196731 0.92) Second (1196755 -0.15) Third (1196683 -2.49) Stop 1194262 First (1195443 -4.37) Second (1195206 -5.76) Third (1195362 -6.61) Stop 1193521 First (1194174 4.38) Second (1194144 1.45) Third (1193916 -7.19) Stop 1193050 First (1193511 7.67) Second (1193379 -5.97) Third (1193310 -6.3) Stop 1191890 First (1192996 2.54) Second (1192888 0.57) Third (1193041 0.36) Stop 1191213 First (1191860 2.83) Second (1191854 1.89) Third (1191719 -3.78) Stop 1189839 First (1191209 6.33) Second (1190900 -6.97) Third (1191116 -9.4) Stop 1188999 First (1189670 10.33) Second (1189640 -3.4) Third (1189325 -4.26) Stop 1187539 First (1188945 -2.98) Second (1188999 -4.31) Third (1188792 -5.01) Stop 1186342 First (1187463 4.89) Second (1187331 0.04) Third (1187472 -3.25) Stop 1184796 First (1185011 -1.09) Second (1185047 -2.32) Third (1184864 -3.83) Stop 1183681 First (1184799 1.71) Second (1184817 -0.1) Third (1184595 -4.23) Stop 1182840 First (1183697 7.86) Second (1183667 -1.88) Third (1183613 -4.1) Stop 1182049 First (1182843 5.04) Second (1182813 -0.54) Third (1182693 -2.58) Stop 1181006 First (1182052 8.08) Second (1181941 -1.2) Third (1181860 -1.26) Stop 1180487 First (1180948 5.49) Second (1180957 1.55) Third (1180573 -2.22) Stop 1179702 First (1180490 3.32) Second (1180412 0.35) Third (1180307 -8.15) Stop 1173315 First (1174388 1.71) Second (1174214 -5.97) Third (1174334 -7.85) Stop 1169741 First (1173187 0.74) Second (1173235 0.31) Third (1173250 -0.18) Stop 1168635 First (1169594 4.03) Second (1169597 -0.51) Third (1169600 -4.89) Stop 1167423 First (1168133 4.08) Second (1168118 2.46) Third (1168055 1.8) Stop 1158585 First (1160774 5.55) Second (1160564 -0.12) Third (1160558 -2.68) Stop 1150784 First (1151137 8.52) Second (1151128 -0.95) Third (1151065 -10.44) Stop 1145234 First (1145818 6.1) Second (1145857 3.14) Third (1145830 -1.41) Stop 1140405 First (1143590 5.24) Second (1143581 1.58) Third (1143551 0.2) Stop 1129427 First (1130086 6.4) Second (1130065 -1.71) Third (1129867 -2.56) Stop 1129058 First (1129351 9.01) Second (1129201 -0.08) Third (1129123 -2.14) Stop 1128637 First (1129053 3.85) Second (1129023 1.71) Third (1128813 -2.87) Stop 1123341 First (1124549 9.31) Second (1124540 2.64) Third (1124411 -0.8) Stop 1122630 First (1123277 4.31) Second (1123229 -1.34) Third (1123103 -5.01) Stop 1121936 First (1122496 0.65) Second (1122553 -3.09) Third (1122511 -3.54) Stop 1120784 First (1121830 6.87) Second (1121704 2.15) Third (1121662 -2.09) Stop 1120465 First (1120710 6.45) Second (1120842 2.04) Third (1120767 -4.08) Stop 1119924 First (1120178 7.84) Second (1120181 2.6) Third (1120097 -4.11)

Stop 1118691 First (1119809 4.24) Second (1119722 -1.99) Third (1119707 -2.12) Stop 1118530 First (1118643 6.5) Second (1118595 0.87) Third (1118559 0.56) Stop 1117703 First (1118269 2.89) Second (1118167 -1.62) Third (1118344 -2.18) Stop 1117124 First (1117699 8.11) Second (1117660 -0.18) Third (1117483 -5.78) Stop 1114885 First (1115805 1.26) Second (1115523 -7.54) Third (1115652 -7.6) Stop 1113487 First (1114713 2.27) Second (1114458 -3.16) Third (1114614 -4.81) Stop 1113434 Two predictions First (1113532 -2.45) Second (1113469 -8.45) Stop 1113030 First (1113404 3.52) Second (1113398 0.81) Third (1113407 -0.19) Stop 1107007 First (1108164 2.85) Second (1107882 -3.14) Third (1108050 -3.84) Stop 1101769 First (1102419 5.86) Second (1102239 -2.26) Third (1102341 -2.3) Stop 1101375 First (1101764 3.3) Second (1101677 -4.17) Third (1101740 -5.97) Stop 1100934 First (1101350 8.29) Second (1101287 3.19) Third (1101320 1.13) Stop 1100074 First (1100907 6.86) Second (1100877 -2.36) Third (1100793 -4.23) Stop 1094361 First (1094660 6.45) Second (1094669 -2.3) Third (1094465 -3.65) Stop 1093498 First (1094364 2.17) Second (1094313 -3.32) Third (1094304 -4.52) Stop 1089089 First (1091512 6.61) Second (1091467 -5.82) Third (1091392 -5.93) Stop 1087062 First (1089080 5.58) Second (1089032 1.4) Third (1089050 -1.69) Stop 1085744 First (1087069 -1.27) Second (1086979 -2.37) Third (1086982 -3.75) Stop 1085329 First (1085742 6.98) Second (1085364 -2.44) Third (1085652 -3.26) Stop 1074143 First (1078105 5.13) Second (1078090 3.04) Third (1078171 -3.64) Stop 1072086 First (1073177 3.91) Second (1073234 2.73) Third (1073180 -2.03) Stop 1071394 First (1072086 4.84) Second (1072089 2.17) Third (1072128 -0.93) Stop 1070996 First (1071382 7.14) Second (1071175 -6.01) Third (1071199 -7.79) Stop 1070188 First (1070988 1.65) Second (1071015 -0.01) Third (1070937 -7.07) Stop 1069588 First (1070178 7.28) Second (1070061 3.7) Third (1070016 -8.43) Stop 1069083 First (1069577 7.99) Second (1069637 3.22) Third (1069658 2.49) Stop 1067734 First (1069062 4.88) Second (1069056 0.08) Third (1069128 -1.57) Stop 1066335 First (1066931 9.3) Second (1066880 1.78) Third (1066847 1.71) Stop 1066087 First (1066314 9.55) Second (1066203 1.19) Third (1066167 -3.45) Stop 1062078 First (1062998 4.63) Second (1062971 4.54) Third (1062797 -2.22) Stop 1061773 First (1062078 9.1) Second (1062063 -1.52) Third (1062093 -2.3) Stop 1056485 First (1057054 5.29) Second (1057177 4.27) Third (1056898 -2.85) Stop 1055181 First (1055450 5.63) Second (1055438 -3.94) Third (1055321 -5.23) Stop 1052657 First (1055356 1.85) Second (1055371 1.79) Third (1055257 -1.26) Stop 1051512 First (1052585 4.49) Second (1052462 -4.99) Third (1052342 -8.26) Stop 1050186 First (1050398 2.73) Second (1050386 -0.02) Third (1050248 -1.15) Stop 1048662 First (1048967 6.06) Second (1048985 -1.77) Third (1048940 -2.57) Stop 1047911 First (1048555 3.53) Second (1048489 -2.5) Third (1048366 -2.6) Stop 1047168 First (1047914 1.7) Second (1047839 -0.52) Third (1047869 -1.99) Stop 1045072 First (1047036 1.54) Second (1047168 -0.58) Third (1047042 -4.12) Stop 1043887 First (1045026 1.6) Second (1044882 0.16) Third (1045047 -1.72) Stop 1043453 First (1043899 5.23) Second (1043911 1.14) Third (1043869 -2.62) Stop 1041253 First (1043433 4.98) Second (1043418 2.66) Third (1043325 -1.76) Stop 1034948 First (1035340 0.19) Second (1035595 0.03) Third (1035280 -2.37) Stop 1029982 First (1030641 4.15) Second (1030455 -1.78) Third (1030320 -5.01) Stop 1029562 First (1029891 4.13) Second (1029948 2.02) Third (1029807 -3.96) Stop 1028002 First (1029192 5.03) Second (1029177 1.56) Third (1029105 1.05) Stop 1027627 First (1027944 9.22) Second (1027995 1.43) Third (1027875 -0.48) Stop 1026334 First (1026996 7.62) Second (1026981 -2.06) Third (1026819 -3.87) Stop 1025780 First (1026238 5.91) Second (1026247 5.8) Third (1026190 -1.77) Stop 1023125 First (1023571 5.77) Second (1023541 -3.28) Third (1023505 -3.67) Stop 1020953 First (1023115 2.19) Second (1023106 0.82) Third (1023094 -1.47) Stop 1019633 First (1020142 5.77) Second (1020148 2.22) Third (1020010 -2.68)

Stop 1018236 First (1019276 5.24) Second (1019333 3.66) Third (1019348 0.07) Stop 1015762 First (1017522 -2.17) Second (1017348 -3.35) Third (1017261 -5.95) Stop 1015175 First (1015801 0.71) Second (1015693 0.05) Third (1015891 -1.33) Stop 1005714 First (1006823 1.9) Second (1006781 -0.94) Third (1006715 -4.16) Stop 996160 First (996735 9.38) Second (996432 -7.23) Third (996327 -7.61) Stop 995208 First (996167 3.98) Second (996173 -2.32) Third (996050 -2.68) Stop 994066 First (995211 6.47) Second (995199 2.99) Third (995019 -7.87) Stop 993264 First (994055 7.63) Second (994100 1.13) Third (993992 -2.17) Stop 992500 First (993267 8.13) Second (993150 -2.38) Third (993231 -3.07) Stop 988377 First (989516 -0.71) Second (989627 -1.49) Third (989399 -2.51) Stop 986808 First (988208 3.86) Second (988199 -1.19) Third (988145 -4.05) Stop 985117 First (986205 6.59) Second (986202 6.09) Third (986181 -4.91) Stop 983742 First (984932 4.79) Second (984788 -6.15) Third (984560 -11.14) Stop 971845 First (972624 5.5) Second (972603 -0.76) Third (972591 -1.92) Stop 954095 First (955855 1.39) Second (955888 -3.6) Third (955864 -5.2) Stop 952832 First (953836 -3.91) Second (953689 -4.68) Third (953863 -5.76) Stop 950495 First (952777 3.97) Second (952603 1.8) Third (952381 -7.19) Stop 949563 First (950303 5.23) Second (950210 1.82) Third (950330 -1.33) Stop 947883 First (948791 6.86) Second (948779 4.27) Third (948785 0.82) Stop 944154 First (944780 4.06) Second (944735 -8.04) Third (944663 -8.33) Stop 942832 First (943674 1.12) Second (943425 -2.38) Third (943638 -3.02) Stop 930308 First (931273 2.82) Second (931162 -4.28) Third (931360 -4.32) Stop 928419 First (930185 0.78) Second (930053 -0.31) Third (930089 -1.22) Stop 926697 First (928418 12.13) Second (928370 -0.76) Third (928352 -3.43) Stop 925951 First (926655 4.75) Second (926538 -3.47) Third (926424 -6.61) Stop 925448 First (925666 7.92) Second (925642 2.25) Third (925606 0.14) Stop 921589 First (921813 5.44) Second (921843 -4.49) Third (921708 -4.81) Stop 917351 First (918343 -2.62) Second (918307 -3.39) Third (918301 -4.15) Stop 914575 First (915279 -0.71) Second (915270 -1.6) Third (915276 -4.47) Stop 913181 First (914080 4.26) Second (913975 -2.9) Third (914128 -3.93) Stop 911385 First (913037 3.73) Second (913043 -1.58) Third (913028 -2.62) Stop 910405 First (911373 7.79) Second (911367 3.83) Third (911379 -1.68) Stop 908554 First (910272 5.59) Second (910140 -2.23) Third (910158 -2.45) Stop 907516 First (908517 5.15) Second (908457 -0.93) Third (908472 -1.55) Stop 906075 First (907505 4.13) Second (907580 -3.27) Third (907535 -6.71) Stop 904963 First (906012 0.6) Second (905976 -1.73) Third (905850 -3.07) Stop 903175 First (903690 8.83) Second (903561 2.73) Third (903669 -2.07) Stop 902229 First (902957 1.74) Second (903029 -0.58) Third (903056 -2.97) Stop 901480 First (902211 6.97) Second (901959 -7.62) Third (901950 -8.41) Stop 900757 First (901473 3.87) Second (901386 0.7) Third (901437 -0.23) Stop 900089 First (900757 8.62) Second (900733 -1.58) Third (900667 -4.51) Stop 899067 First (899798 6.98) Second (899849 -1.96) Third (899819 -4.96) Stop 889719 First (889976 9.67) Second (889991 5.07) Third (889934 -2.07) Stop 887357 First (889042 -1.38) Second (888763 -1.72) Third (889021 -4.55) Stop 885354 First (886508 3.95) Second (886481 2.84) Third (886562 1.33) Stop 884539 First (885354 6.66) Second (885276 2.19) Third (885357 1.25) Stop 884169 First (884453 3.01) Second (884447 2.74) Third (884414 2.73) Stop 882015 First (882611 3.1) Second (882599 -0.15) Third (882536 -2.78) Stop 881199 First (881957 6.79) Second (881852 3.31) Third (881807 -9.32) Stop 879077 First (879703 6.51) Second (879709 0.25) Third (879565 -3.21) Stop 875933 First (877258 1.89) Second (877147 -1.65) Third (877117 -3.88) Stop 864352 First (865587 8.27) Second (865539 -0.69) Third (865566 -1.98) Stop 863603 First (864352 8.54) Second (864253 -5.01) Third (864328 -5.34)

Stop 861835 First (862734 5.85) Second (862761 5.76) Third (862407 -3.01) Stop 859397 First (861829 6.32) Second (861760 -5.0) Third (861715 -7.22) Stop 858436 First (859251 4.74) Second (859224 -1.19) Third (859173 -3.22) Stop 857019 First (858284 6.8) Second (858224 0.02) Third (858290 -0.44) Stop 854047 First (854961 0.11) Second (854967 -1.27) Third (854766 -2.04) Stop 850237 First (851820 2.1) Second (851703 -3.41) Third (851673 -7.88) Stop 848433 First (849320 7.76) Second (849332 1.04) Third (849299 -0.69) Stop 847631 First (848134 3.25) Second (848257 -2.45) Third (848227 -4.56) Stop 846481 First (847227 5.56) Second (847089 -0.79) Third (847020 -4.88) Stop 845683 First (846342 6.65) Second (846282 3.87) Third (846231 -7.94) Stop 844964 First (845686 1.79) Second (845596 -3.87) Third (845599 -4.27) Stop 842478 First (844703 3.98) Second (844838 -2.97) Third (844730 -7.99) Stop 841019 First (841279 3.82) Second (841423 1.96) Third (841408 -5.14) Stop 838472 First (840754 2.59) Second (840532 -2.75) Third (840673 -7.5) Stop 837753 First (838427 3.14) Second (838430 1.68) Third (838466 -0.26) Stop 837413 Two predictions First (837679 10.46) Second (837511 -2.93) Stop 836888 First (837148 5.48) Second (837049 0.79) Third (837118 -2.98) Stop 831691 First (832140 5.18) Second (832173 2.55) Third (831960 -0.93) Stop 829195 First (829878 4.27) Second (829866 2.02) Third (829851 1.43) Stop 828197 First (829192 6.39) Second (829195 2.12) Third (829159 -2.84) Stop 826468 First (828204 4.93) Second (828057 -0.39) Third (828219 -1.71) Stop 825342 First (826475 9.51) Second (826256 -2.69) Third (826193 -2.76) Stop 824225 First (825331 8.41) Second (825244 -3.03) Third (825232 -4.17) Stop 822959 First (823720 6.9) Second (823570 -0.99) Third (823612 -4.03) Stop 821721 First (822962 7.89) Second (822926 -2.78) Third (822761 -8.04) Stop 820765 First (821721 8.42) Second (821622 -4.94) Third (821640 -5.03) Stop 817236 First (817778 -0.57) Second (817772 -3.66) Third (817637 -9.56) Stop 814962 First (815870 5.88) Second (815930 0.16) Third (815684 -1.01) Stop 807191 First (808480 0.8) Second (808591 0.65) Third (808498 -3.06) Stop 806656 First (807132 9.39) Second (807093 -3.84) Third (807066 -4.34) Stop 805221 First (806504 1.99) Second (806456 -7.99) Third (806468 -8.71) Stop 798845 First (799798 6.1) Second (799861 3.55) Third (799777 0.69) Stop 796836 First (797654 1.99) Second (797756 -2.16) Third (797723 -2.92) Stop 793079 First (793867 5.45) Second (793705 0.99) Third (793564 -9.32) Stop 791539 First (793011 8.14) Second (792846 -0.89) Third (793023 -1.72) Stop 790262 First (791278 5.5) Second (791290 1.88) Third (791320 -0.22) Stop 789206 First (790252 6.69) Second (790078 -1.39) Third (790072 -4.87) Stop 788054 First (789202 8.42) Second (789118 -3.19) Third (789004 -3.94) Stop 787020 First (788060 2.73) Second (787970 0.76) Third (787985 -1.29) Stop 786066 First (786818 10.38) Second (786833 -1.87) Third (786737 -8.17) Stop 784160 First (784540 7.62) Second (784534 6.36) Third (784306 -1.51) Stop 783105 First (784046 6.12) Second (783887 -1.1) Third (783953 -3.08) Stop 772154 First (773434 0.99) Second (773392 -2.41) Third (772975 -6.97) Stop 764376 First (765098 5.77) Second (764963 -2.24) Third (764669 -7.52) Stop 754442 First (754489 -2.92) Second (754672 -5.47) Third (754651 -7.32) Stop 752408 First (753691 10.29) Second (753634 -4.18) Third (753493 -5.56) Stop 751452 First (752018 6.13) Second (751997 1.66) Third (751745 -7.01) Stop 748945 First (751401 0.19) Second (751443 0.15) Third (751392 -0.65) Stop 748202 First (748930 5.93) Second (748903 2.2) Third (748900 -2.01) Stop 747144 First (748205 6.8) Second (748142 -0.56) Third (748184 -1.12) Stop 745946 First (746992 5.44) Second (747007 4.98) Third (746869 1.8) Stop 740298 First (741779 2.52) Second (741524 -4.35) Third (741698 -4.99) Stop 727955 First (728158 5.4) Second (728044 2.68) Third (728110 -2.02)

Stop 726282 First (727955 2.95) Second (728051 -2.73) Third (728099 -4.51) Stop 724211 First (726259 5.57) Second (726196 -1.8) Third (726103 -3.72) Stop 723630 First (724202 7.03) Second (724058 -2.08) Third (724214 -4.46) Stop 720953 First (723637 4.24) Second (723640 -0.98) Third (723472 -1.53) Stop 720279 First (720956 5.55) Second (720881 5.4) Third (720815 -4.28) Stop 717485 First (719683 4.74) Second (719587 -2.74) Third (719245 -7.64) Stop 716169 First (717488 8.29) Second (717464 2.77) Third (717434 -0.45) Stop 715611 First (715820 5.34) Second (715928 1.8) Third (715811 -2.6) Stop 715170 First (715532 -3.37) Second (715193 -6.37) Third (715580 -6.87) Stop 711261 First (712025 0.07) Second (711878 -2.06) Third (711842 -2.36) Stop 710828 First (711190 1.02) Second (711121 0.79) Third (710902 -1.42) Stop 710158 First (710688 2.28) Second (710805 -3.1) Third (710628 -5.65) Stop 709423 Two predictions First (709869 5.46) Second (709734 -1.86) Stop 702034 First (702834 8.08) Second (702672 -1.46) Third (702570 -4.4) Stop 700826 First (701974 6.24) Second (701728 -3.8) Third (701635 -7.95) Stop 699597 First (700817 4.66) Second (700430 -12.3) Third (700493 -13.12) Stop 698797 First (699549 5.02) Second (699468 -1.96) Third (699456 -2.4) Stop 698354 First (698398 -2.43) Second (698647 -3.06) Third (698620 -5.09) Stop 696736 First (698400 2.25) Second (698319 -4.13) Third (698481 -8.76) Stop 692754 First (694139 2.74) Second (694178 2.04) Third (694115 -4.48) Stop 691561 First (692640 2.5) Second (692601 1.23) Third (692547 -7.33) Stop 691097 First (691564 5.99) Second (691555 -1.52) Third (691444 -1.85) Stop 690129 First (690839 -2.56) Second (690824 -3.19) Third (690656 -3.4) Stop 688566 First (690104 5.26) Second (689966 -3.11) Third (689981 -5.8) Stop 687220 First (688200 5.33) Second (688236 1.56) Third (688023 -1.6) Stop 686062 First (686970 5.39) Second (686976 -2.77) Third (687045 -4.31) Stop 685152 First (685892 7.23) Second (685802 0.39) Third (685601 -1.9) Stop 684478 First (685152 10.29) Second (685035 -1.18) Third (685026 -5.86) Stop 683753 First (684478 6.08) Second (684388 -2.96) Third (684394 -3.67) Stop 682700 First (683635 5.47) Second (683422 -6.14) Third (683668 -7.82) Stop 680946 First (682616 1.53) Second (682484 -2.4) Third (682391 -6.16) Stop 678075 First (678629 -0.97) Second (678614 -2.49) Third (678533 -6.48) Stop 674793 First (675770 5.36) Second (675776 0.14) Third (675380 -6.05) Stop 671424 First (674147 2.33) Second (674006 1.08) Third (674099 -0.16) Stop 670828 First (671409 5.93) Second (671313 1.06) Third (671304 -2.42) Stop 669797 First (670828 5.81) Second (670819 -3.05) Third (670738 -5.03) Stop 669154 First (669795 -2.51) Second (669711 -5.64) Third (669621 -6.24) Stop 668519 First (669130 5.95) Second (669133 -1.08) Third (668887 -5.21) Stop 667942 First (668259 6.2) Second (668115 -3.76) Third (668151 -5.19) Stop 667471 First (667905 6.31) Second (667938 3.53) Third (667761 0.0) Stop 665539 First (667440 1.12) Second (667389 -1.34) Third (667356 -2.93) Stop 664424 First (665536 8.49) Second (665401 0.08) Third (665404 -1.78) Stop 663325 First (664413 4.65) Second (664374 -3.07) Third (664203 -6.64) Stop 661975 First (663258 4.78) Second (663186 0.12) Third (663078 -2.63) Stop 661602 First (661865 5.72) Second (661808 -1.99) Third (661766 -2.25) Stop 660860 First (661324 1.64) Second (661501 0.46) Third (661249 -3.14) Stop 659648 First (660601 2.3) Second (660448 -5.6) Third (660334 -8.78) Stop 658474 First (659439 3.48) Second (659421 0.89) Third (659265 -0.79) Stop 656778 First (657161 1.58) Second (657092 0.38) Third (657113 -0.18) Stop 653806 First (655191 3.24) Second (655149 -0.79) Third (655047 -2.27) Stop 650021 First (651079 2.15) Second (651028 -3.01) Third (651166 -6.94) Stop 649710 First (650006 6.34) Second (649955 3.33) Third (649958 -2.22) Stop 648805 First (649713 7.41) Second (649719 -1.98) Third (649728 -3.9)

Stop 647262 First (648794 5.4) Second (648608 -4.48) Third (648533 -6.07) Stop 646707 First (647258 7.32) Second (646976 -5.03) Third (646979 -6.69) Stop 645854 First (646732 8.15) Second (646726 0.66) Third (646648 -1.64) Stop 644340 First (645803 5.42) Second (645743 1.87) Third (645770 0.09) Stop 643420 First (644226 3.0) Second (644244 0.63) Third (644199 -5.68) Stop 642780 First (643190 6.81) Second (643064 -0.92) Third (643046 -6.13) Stop 640662 First (641090 8.74) Second (641072 4.17) Third (641051 0.39) Stop 638135 First (638788 3.13) Second (638779 0.78) Third (638650 -2.73) Stop 637050 First (637796 5.08) Second (637856 3.89) Third (637637 -1.81) Stop 635939 First (636841 5.68) Second (636823 -5.67) Third (636721 -7.4) Stop 634572 First (635792 3.27) Second (635666 -3.73) Third (635633 -5.91) Stop 633970 First (634587 7.7) Second (634599 5.93) Third (634500 -1.15) Stop 631612 First (632700 7.87) Second (632505 -1.83) Third (632679 -6.56) Stop 622777 First (623733 4.41) Second (623685 0.66) Third (623460 -4.48) Stop 620408 First (621412 4.15) Second (621424 3.11) Third (621172 -1.5) Stop 619419 First (620411 4.14) Second (620282 -0.88) Third (620261 -5.06) Stop 618607 First (619422 3.76) Second (619563 1.66) Third (619254 -7.62) Stop 609477 First (611717 5.31) Second (611771 2.57) Third (611777 -1.31) Stop 608682 First (609452 -0.83) Second (609425 -0.93) Third (609335 -3.02) Stop 605488 First (606606 4.61) Second (606501 1.38) Third (606549 0.79) Stop 605174 First (605374 1.98) Second (605422 1.23) Third (605380 -2.94) Stop 604741 First (605109 3.58) Second (605229 0.04) Third (605220 -1.4) Stop 603994 First (604647 5.32) Second (604425 -3.32) Third (604698 -6.24) Stop 602639 First (603886 7.44) Second (603904 -0.93) Third (603817 -5.85) Stop 593983 First (594666 9.77) Second (594621 1.24) Third (594657 1.2) Stop 592551 First (593993 4.18) Second (594005 -0.25) Third (593891 -4.48) Stop 590164 First (592401 3.55) Second (592326 -0.21) Third (592143 -3.05) Stop 587205 First (590177 6.46) Second (590198 -2.77) Third (590117 -3.52) Stop 586314 First (587204 6.69) Second (587075 1.42) Third (586904 -2.39) Stop 585370 First (586131 8.75) Second (586125 1.03) Third (586101 -3.8) Stop 583903 First (584856 4.6) Second (584556 -3.19) Third (584616 -4.05) Stop 581375 First (581959 -4.57) Second (581806 -5.73) Third (581674 -7.94) Stop 578407 First (578817 1.75) Second (578859 -0.59) Third (578778 -6.18) Stop 577823 First (578116 5.33) Second (578107 -0.24) Third (577840 -6.88) Stop 574981 First (576048 5.1) Second (576108 1.45) Third (575994 -0.79) Stop 573960 First (574940 4.46) Second (574976 1.56) Third (574763 -1.6) Stop 573752 No predictions Stop 565321 First (565584 3.16) Second (565518 0.25) Third (565539 -1.83) Stop 564038 First (565201 6.52) Second (565093 -4.25) Third (564874 -5.99) Stop 563071 First (563703 2.26) Second (563679 -0.57) Third (563766 -0.78) Stop 556098 First (556964 -0.66) Second (556850 -7.44) Third (556922 -10.44) Stop 555884 First (556096 5.3) Second (556117 1.68) Third (556105 1.16) Stop 555255 First (555776 2.46) Second (555671 -1.28) Third (555284 -7.44) Stop 553166 First (553660 6.72) Second (553516 -3.85) Third (553486 -5.3) Stop 552441 First (553163 2.73) Second (552827 -3.55) Third (552860 -5.21) Stop 551814 First (552323 7.72) Second (552257 1.38) Third (552350 -2.71) Stop 550750 First (551817 2.82) Second (551775 -0.6) Third (551703 -8.54) Stop 544538 First (545587 6.46) Second (545503 -2.66) Third (545314 -3.97) Stop 543281 First (544516 6.67) Second (544438 0.89) Third (544378 -0.48) Stop 542485 First (543270 10.8) Second (542922 -4.39) Third (543012 -8.3) Stop 530519 First (531445 7.11) Second (531211 -2.65) Third (531427 -6.42) Stop 529356 First (530450 6.02) Second (530351 1.3) Third (530240 -2.62) Stop 528869 First (529240 6.33) Second (529147 -0.49) Third (529276 -2.14)

Stop 518363 First (519019 5.47) Second (518986 1.0) Third (518989 0.95) Stop 517564 First (518334 5.74) Second (518373 3.96) Third (518250 -0.61) Stop 516649 First (517503 2.23) Second (517539 0.76) Third (517440 0.24) Stop 514080 First (514997 10.5) Second (514814 -2.46) Third (514817 -3.11) Stop 513625 First (514071 2.57) Second (514080 0.38) Third (513909 -0.11) Stop 508099 First (510603 9.65) Second (510498 -3.38) Third (510543 -5.88) Stop 506510 First (507304 9.71) Second (507166 0.74) Third (507295 0.06) Stop 505827 First (506306 7.34) Second (506141 -3.56) Third (506051 -5.34) Stop 502700 First (503920 3.08) Second (503914 -0.04) Third (503806 -1.94) Stop 500786 First (502462 7.42) Second (502219 -1.07) Third (502258 -2.77) Stop 498238 First (499197 8.8) Second (499026 -0.56) Third (499008 -1.02) Stop 496363 First (497058 2.79) Second (497115 -0.07) Third (497121 -1.47) Stop 493276 First (493653 -3.79) Second (493449 -7.86) Third (493353 -11.57) Stop 489509 First (490036 4.89) Second (489967 -9.02) Third (489823 -9.84) Stop 489334 First (489495 7.67) Second (489444 -6.27) Third (489450 -6.58) Stop 483650 First (484843 7.44) Second (484735 0.52) Third (484870 -2.15) Stop 480478 First (483627 7.89) Second (483423 -1.16) Third (483570 -2.01) Stop 479558 First (479932 5.64) Second (479680 -6.26) Third (479653 -9.09) Stop 479314 First (479733 3.33) Second (479769 -0.04) Third (479532 -1.41) Stop 478591 First (479142 8.13) Second (479121 1.58) Third (479106 -5.86) Stop 478005 First (478475 4.19) Second (478352 1.33) Third (478499 -0.55) Stop 476291 First (477841 1.24) Second (477847 -2.43) Third (477679 -5.02) Stop 475206 First (475517 4.32) Second (475577 -2.41) Third (475595 -3.9) Stop 473525 First (474385 6.56) Second (474286 -2.89) Third (474355 -4.11) Stop 471879 First (472226 -0.59) Second (472259 -6.09) Third (472172 -6.94) Stop 464836 First (466536 6.48) Second (466551 0.05) Third (466530 -0.33) Stop 464076 First (464771 5.73) Second (464681 -5.08) Third (464753 -5.18) Stop 454366 First (455667 -0.48) Second (455340 -14.83) Third (455022 -15.61) Stop 452813 First (453391 -0.45) Second (453550 -0.68) Third (453271 -1.92) Stop 451294 First (452769 3.78) Second (452655 0.35) Third (452565 -7.03) Stop 449887 First (450834 7.7) Second (450807 0.32) Third (450774 -0.71) Stop 447874 First (449865 8.74) Second (449814 0.51) Third (449688 -4.05) Stop 447270 First (447884 5.91) Second (447785 2.56) Third (447869 -2.01) Stop 446941 First (447270 5.16) Second (447114 -0.88) Third (447216 -1.01) Stop 446039 First (446974 1.44) Second (446926 -0.97) Third (446929 -1.54) Stop 444526 First (445890 1.41) Second (445875 -2.49) Third (445803 -2.93) Stop 442828 First (443739 12.43) Second (443724 -1.83) Third (443442 -6.62) Stop 442275 First (442865 8.15) Second (442871 -0.88) Third (442661 -8.76) Stop 440325 Two predictions First (440567 3.51) Second (440441 -4.85) Stop 439426 First (440325 4.75) Second (440220 -3.48) Third (440154 -3.98) Stop 437539 First (439401 2.24) Second (439335 1.75) Third (439140 -7.45) Stop 436385 First (437359 5.01) Second (437431 4.43) Third (437422 0.32) Stop 431536 First (432135 4.68) Second (432075 3.93) Third (431991 -1.28) Stop 430353 First (431237 -1.14) Second (431285 -1.37) Third (430940 -9.32) Stop 423561 First (424142 5.69) Second (423905 -2.09) Third (424013 -2.83) Stop 414974 First (416176 3.48) Second (416200 1.9) Third (416218 -6.66) Stop 411831 First (414977 4.9) Second (414719 -3.87) Third (414764 -5.98) Stop 410521 First (411789 0.89) Second (411750 -5.28) Third (411705 -5.44) Stop 408332 First (409309 3.14) Second (409243 1.83) Third (409315 0.33) Stop 404059 First (404868 4.69) Second (404958 0.79) Third (404973 -2.38) Stop 399053 First (400147 6.54) Second (400093 -0.42) Third (400033 -6.22) Stop 398249 First (398557 9.98) Second (398392 -0.05) Third (398437 -4.28) Stop 394354 First (395511 -0.84) Second (395265 -6.3) Third (395466 -7.24)

Stop 391826 First (392125 6.45) Second (392134 -2.3) Third (391930 -3.77) Stop 390963 First (391829 1.97) Second (391778 -3.32) Third (391769 -4.76) Stop 389121 First (389390 -1.09) Second (389339 -1.56) Third (389372 -2.4) Stop 387977 First (388984 3.41) Second (388951 0.93) Third (388792 -5.4) Stop 383283 First (383840 4.72) Second (383477 -3.73) Third (383687 -6.76) Stop 381963 First (383135 4.83) Second (383159 3.75) Third (383123 -3.73) Stop 381728 First (382096 5.62) Second (382087 0.07) Third (382114 -0.58) Stop 380068 First (380511 -1.08) Second (380283 -4.93) Third (380184 -8.62) Stop 379293 First (380066 7.59) Second (380024 -6.03) Third (379925 -8.62) Stop 378830 First (379105 5.37) Second (379126 1.62) Third (379120 -2.19) Stop 377686 First (378795 6.54) Second (378708 -0.38) Third (378594 -2.19) Stop 376759 First (377592 4.21) Second (377547 0.82) Third (377511 0.42) Stop 370382 First (371242 2.79) Second (371299 -0.51) Third (371350 -1.16) Stop 366811 First (367758 3.23) Second (367656 1.68) Third (367725 0.22) Stop 365652 First (366623 2.69) Second (366734 1.89) Third (366743 -0.64) Stop 362455 First (365529 5.98) Second (365523 3.55) Third (365376 -9.81) Stop 361150 First (362403 8.32) Second (362337 -2.17) Third (362157 -3.01) Stop 360473 First (360988 3.52) Second (361135 1.76) Third (361084 0.86) Stop 357015 First (357950 1.67) Second (357947 0.99) Third (357914 0.71) Stop 348742 First (349188 2.81) Second (349095 -0.86) Third (349002 -3.41) Stop 346081 First (347667 -2.92) Second (347679 -5.84) Third (347520 -6.45) Stop 344890 First (345522 3.39) Second (345537 1.14) Third (345444 1.04) Stop 333749 First (334246 8.45) Second (334186 -0.92) Third (334051 -5.54) Stop 332725 First (333657 2.79) Second (333627 -1.48) Third (333531 -3.16) Stop 327971 First (328558 6.45) Second (328576 1.6) Third (328378 -0.87) Stop 326485 First (327957 5.93) Second (327948 0.44) Third (327960 -0.17) Stop 324801 First (326471 6.9) Second (326516 -2.02) Third (326258 -2.9) Stop 323920 First (324588 5.73) Second (324504 -2.14) Third (324444 -4.05) Stop 323632 One prediction (323844 3.15) Stop 317900 First (319225 5.24) Second (319252 0.33) Third (319141 -2.64) Stop 317555 First (317791 -1.14) Second (317803 -1.93) Third (317602 -3.45) Stop 316950 First (317543 7.69) Second (317552 1.96) Third (317186 -0.05) Stop 315674 First (316360 3.85) Second (316393 1.29) Third (316225 -6.09) Stop 311738 First (312001 3.47) Second (312004 2.11) Third (311965 -1.76) Stop 309970 First (310512 4.7) Second (310560 0.96) Third (310431 -4.9) Stop 309308 First (309895 4.31) Second (309847 -2.46) Third (309859 -3.38) Stop 308582 First (309250 2.84) Second (309043 -2.19) Third (309163 -3.86) Stop 306031 First (308556 5.06) Second (308397 -0.54) Third (308439 -3.29) Stop 304398 First (306041 8.19) Second (306017 1.29) Third (305969 -2.79) Stop 303719 First (304429 7.44) Second (304474 -0.5) Third (304459 -2.83) Stop 303077 First (303406 1.82) Second (303385 0.75) Third (303151 -2.28) Stop 301108 First (301797 6.25) Second (301707 -2.67) Third (301617 -5.88) Stop 300155 First (301111 9.84) Second (301000 -0.84) Third (301087 -2.73) Stop 297960 First (300158 5.62) Second (299813 -10.84) Third (299597 -11.5) Stop 296994 First (297950 12.6) Second (297845 2.9) Third (297821 -0.5) Stop 296605 First (297015 5.1) Second (297147 -0.11) Third (296820 -12.28) Stop 294920 First (296245 4.78) Second (296320 1.25) Third (296071 -0.89) Stop 294363 First (294803 7.51) Second (294695 -1.92) Third (294599 -4.17) Stop 293169 First (294023 5.54) Second (293996 -0.47) Third (293816 -5.41) Stop 292444 First (293142 4.52) Second (293013 1.81) Third (293064 -5.11) Stop 291546 First (292172 4.14) Second (291977 0.09) Third (291989 -3.53) Stop 290295 First (290570 3.33) Second (290354 -2.39) Third (290390 -4.24) Stop 289873 First (290376 0.12) Second (290118 -1.5) Third (290250 -4.56)

Stop 288525 First (289529 8.93) Second (289232 -5.64) Third (289061 -8.27) Stop 287628 First (288386 2.67) Second (288290 -3.81) Third (288191 -4.75) Stop 281430 First (282227 -0.96) Second (282098 -2.75) Third (282329 -3.89) Stop 280053 First (281195 4.95) Second (281207 3.34) Third (281171 3.01) Stop 279609 First (279959 9.89) Second (279890 -0.93) Third (279986 -1.49) Stop 279248 Two predictions First (279586 3.37) Second (279592 -0.71) Stop 278824 First (279099 2.9) Second (278883 -3.13) Third (278925 -3.41) Stop 278402 First (278905 -0.41) Second (278647 -1.5) Third (278779 -4.56) Stop 278038 First (278400 -3.19) Second (278259 -3.68) Third (278229 -6.9) Stop 276980 First (278026 4.1) Second (278038 3.26) Third (277924 -0.03) Stop 273325 First (274305 5.71) Second (274341 1.56) Third (274233 -0.88) Stop 268513 First (269406 6.69) Second (269331 -0.37) Third (269265 -2.54) Stop 267321 First (268184 6.35) Second (268187 0.47) Third (268061 -2.57) Stop 266408 First (267229 5.21) Second (267244 -4.97) Third (267145 -6.38) Stop 265334 First (266191 6.03) Second (266104 0.64) Third (266035 -2.56) Stop 264844 First (265311 8.04) Second (265284 0.46) Third (265191 -2.41) Stop 264528 First (264767 0.14) Second (264929 -3.65) Third (264980 -4.66) Stop 263972 First (264595 -1.78) Second (264430 -2.0) Third (264604 -4.22) Stop 263480 First (263956 8.2) Second (263926 -3.3) Third (263776 -4.7) Stop 262914 First (263231 7.87) Second (263171 2.11) Third (263048 -2.84) Stop 262552 First (262893 0.92) Second (262824 -6.22) Third (262860 -7.53) Stop 258269 First (259324 5.46) Second (259330 2.7) Third (259285 0.67) Stop 254259 First (255716 5.45) Second (255482 -4.63) Third (255524 -6.3) Stop 248358 First (250097 -1.63) Second (250067 -2.6) Third (249989 -3.84) Stop 246242 First (246502 7.71) Second (246427 0.43) Third (246364 -5.98) Stop 245961 First (246239 8.35) Second (246155 1.39) Third (246143 1.29) Stop 245065 First (245805 7.13) Second (245688 -1.09) Third (245778 -1.99) Stop 240859 First (243303 4.54) Second (243300 2.96) Third (243381 -2.24) Stop 239419 First (240189 3.52) Second (240165 -2.32) Third (240081 -2.35) Stop 238746 First (239084 2.76) Second (239039 -2.05) Third (238790 -2.36) Stop 235535 First (236002 2.01) Second (236113 -4.21) Third (236074 -4.24) Stop 234027 First (234782 6.58) Second (234350 -5.62) Third (234587 -5.79) Stop 232597 First (233955 1.88) Second (233817 -0.49) Third (233751 -1.53) Stop 229967 First (230881 7.19) Second (230755 -2.05) Third (230770 -4.46) Stop 221614 First (222645 3.65) Second (222618 -3.62) Third (222462 -3.66) Stop 220968 First (221621 6.92) Second (221567 4.24) Third (221606 1.74) Stop 220113 First (220928 7.85) Second (220820 -4.68) Third (220898 -5.69) Stop 219591 First (219995 8.76) Second (219944 1.66) Third (219962 0.52) Stop 218887 First (219594 1.49) Second (219339 -5.81) Third (219396 -6.3) Stop 217057 First (218775 2.49) Second (218829 -1.84) Third (218565 -2.16) Stop 216179 First (217003 4.07) Second (217057 1.4) Third (217012 -6.17) Stop 213678 First (213938 4.53) Second (213932 3.34) Third (213860 -2.42) Stop 208552 First (209448 0.35) Second (209283 -6.91) Third (209487 -7.02) Stop 190551 First (191603 -3.4) Second (191360 -10.97) Third (191372 -12.99) Stop 188712 First (189506 6.05) Second (189467 2.78) Third (189428 0.51) Stop 185978 First (188650 4.16) Second (188473 -5.5) Third (188281 -8.19) Stop 185123 First (185947 5.64) Second (185848 -3.35) Third (185686 -6.17) Stop 184987 First (185325 0.78) Second (185364 0.62) Third (185223 -2.49) Stop 184257 First (185069 5.67) Second (185000 3.75) Third (185048 -3.04) Stop 183709 Two predictions First (184095 7.04) Second (183912 -6.71) Stop 178455 First (179153 4.79) Second (179129 -2.49) Third (178946 -7.17) Stop 177662 First (178462 -2.31) Second (178150 -2.85) Third (178468 -4.45) Stop 177001 First (177624 6.24) Second (177546 2.4) Third (177480 2.05)

Stop 173602 First (174882 3.9) Second (174600 -3.4) Third (174696 -5.13) Stop 173388 First (173714 0.48) Second (173453 -0.96) Third (173633 -2.82) Stop 161501 First (162244 2.66) Second (162031 -4.61) Third (162040 -11.39) Stop 160782 First (161486 2.84) Second (161366 -3.34) Third (161420 -6.75) Stop 160149 First (160604 9.56) Second (160511 2.48) Third (160622 1.98) Stop 159186 First (160112 3.05) Second (160082 -2.32) Third (160094 -4.14) Stop 157729 First (159036 -2.08) Second (159147 -2.52) Third (158973 -2.62) Stop 157253 First (157732 7.1) Second (157726 1.85) Third (157435 -5.46) Stop 156299 First (156883 6.54) Second (156838 -2.2) Third (156811 -2.63) Stop 155461 First (156201 6.02) Second (156153 0.2) Third (156039 -2.27) Stop 152829 First (155426 2.84) Second (155306 -2.14) Third (154955 -9.79) Stop 152243 First (152812 5.38) Second (152776 0.2) Third (152854 -0.5) Stop 151626 First (152228 4.52) Second (152231 3.0) Third (152105 -5.12) Stop 151003 First (151599 4.97) Second (151575 0.68) Third (151320 -4.88) Stop 149715 First (150953 5.6) Second (150740 -0.82) Third (150872 -3.13) Stop 148807 First (149601 5.04) Second (149481 0.39) Third (149457 -0.55) Stop 147944 First (148795 5.03) Second (148726 -1.16) Third (148741 -3.69) Stop 146314 First (146694 5.77) Second (146658 0.13) Third (146682 -1.78) Stop 142008 First (142670 3.62) Second (142622 -2.67) Third (142616 -6.89) Stop 138835 First (141225 -0.02) Second (141243 -1.71) Third (141078 -6.62) Stop 136570 First (137088 -0.51) Second (136917 -2.5) Third (136827 -4.04) Stop 135598 First (136464 11.0) Second (136326 -4.81) Third (136266 -5.39) Stop 134788 First (135582 5.39) Second (135339 -10.83) Third (135159 -13.71) Stop 129407 First (131260 3.01) Second (131254 -1.88) Third (131248 -4.38) Stop 128506 First (129363 -1.42) Second (129258 -2.31) Third (129240 -3.43) Stop 120178 First (121548 5.71) Second (121551 4.55) Third (121347 -2.81) Stop 117752 First (118645 6.82) Second (118687 3.51) Third (118417 -6.36) Stop 117109 First (117549 8.29) Second (117426 -2.92) Third (117513 -4.23) Stop 115714 First (117099 7.76) Second (116925 -0.89) Third (117030 -1.53) Stop 114522 First (115724 4.44) Second (115661 -1.12) Third (115628 -3.73) Stop 114407 First (114514 0.3) Second (114535 -0.05) Third (114511 -0.77) Stop 112599 First (113219 8.7) Second (113048 -4.24) Third (113027 -6.91) Stop 111856 First (112599 4.51) Second (112557 0.21) Third (112530 -5.87) Stop 111649 First (111846 11.13) Second (111798 0.88) Third (111801 -0.03) Stop 111564 First (111581 -1.0) Second (111638 -1.47) Third (111587 -2.09) Stop 83622 First (83708 4.69) Second (83813 2.02) Third (83642 -6.42) Stop 81958 First (83529 3.61) Second (83403 -2.81) Third (83457 -4.94) Stop 80867 First (81958 1.1) Second (81901 -2.83) Third (81961 -2.88) Stop 79464 First (80864 7.79) Second (80534 -3.36) Third (80840 -4.84) Stop 78848 First (79453 7.43) Second (79420 -2.39) Third (79354 -6.35) Stop 75644 First (77299 7.68) Second (77320 -2.98) Third (77182 -3.12) Stop 74497 First (75480 0.92) Second (75366 -2.91) Third (75492 -5.06) Stop 72911 First (74521 5.54) Second (74392 -0.97) Third (74455 -3.4) Stop 72229 First (72927 5.21) Second (72600 -2.44) Third (72864 -2.56) Stop 68348 First (70048 5.44) Second (70009 -2.7) Third (69994 -4.08) Stop 66835 First (68337 6.3) Second (68313 -2.26) Third (68361 -3.65) Stop 65855 First (66550 8.28) Second (66385 -3.58) Third (66433 -4.41) Stop 63429 First (65780 2.77) Second (65393 -2.49) Third (65687 -4.42) Stop 60358 First (63264 4.13) Second (63216 -3.26) Third (63192 -3.28) Stop 59687 First (60346 4.04) Second (60340 1.89) Third (60277 0.41) Stop 57844 First (58209 -3.51) Second (58062 -8.92) Third (58059 -9.74) Stop 54755 First (57109 2.8) Second (56884 -1.02) Third (57076 -2.55) Stop 53416 First (54702 6.19) Second (54444 -0.4) Third (54567 -0.59)

Stop 52427 First (53416 4.85) Second (53272 -1.04) Third (53395 -3.62) Stop 51609 First (52310 1.38) Second (52430 0.83) Third (52343 -3.02) Stop 51229 First (51606 5.72) Second (51660 -3.7) Third (51306 -5.17) Stop 50380 First (51222 4.11) Second (51069 -3.01) Third (51168 -6.51) Stop 40417 First (41931 6.49) Second (41649 -2.58) Third (41757 -2.8) Stop 39244 First (40386 6.63) Second (40242 -1.73) Third (40329 -2.16) Stop 37898 First (39115 8.68) Second (39100 4.07) Third (39073 -3.36) Stop 36271 First (37824 5.19) Second (37839 1.7) Third (37791 -1.5) Stop 35377 First (36162 5.08) Second (36270 4.36) Third (36198 -3.14) Stop 34781 First (35338 4.42) Second (35371 2.07) Third (35182 -0.64) Stop 34086 Two predictions First (34265 1.17) Second (34223 0.57) Stop 20815 First (21078 2.14) Second (20919 -1.23) Third (20997 -2.0) Stop 20233 First (20508 3.27) Second (20292 -2.16) Third (20328 -4.26) Stop 19811 First (20314 0.11) Second (20056 -1.5) Third (20188 -4.56) Stop 16751 First (16903 5.89) Second (16960 3.63) Third (16993 0.23) Stop 15869 Two predictions First (16177 - 3.11) Second (15991 - 8.93) Stop 11382 First (11786 4.27) Second (11741 -3.47) Third (11687 -4.39) Stop 10643 First (11356 3.62) Second (11293 1.01) Third (11203 -2.76) Stop 9928 First (10494 7.89) Second (10440 2.92) Third (10452 2.51) Stop 6529 First (7959 4.91) Second (7911 3.57) Third (7677 -4.17) Stop 5683 First (6459 2.9) Second (6312 -4.48) Third (6411 -7.16) Stop 5310 First (5738 4.21) Second (5720 1.37) Third (5741 -0.02)