

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
8 February 2007 (08.02.2007)

PCT

(10) International Publication Number
WO 2007/016331 A2(51) International Patent Classification:
C12Q 1/68 (2006.01)

(21) International Application Number:

PCT/US2006/029372

(22) International Filing Date: 28 July 2006 (28.07.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/703,703 29 July 2005 (29.07.2005) US(71) Applicant (for all designated States except US): **CHILDREN'S HOSPITAL MEDICAL CENTER** [US/US];
Intellectual Property and Venture Development, 3333
Burnet Avenue, Cincinnati, OH 45229-3039 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **BEZERRA, Jorge** [BR/US]; 3333 Burnet Avenue, Cincinnati, OH
45229-3039 (US).(74) Agents: **MANCINO, David, A.** et al.; Taft, Stettinius &
Hollister, LLP, 425 Walnut Street, Suite 1800, Cincinnati,
OH 45202-3957 (US).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP,
KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT,
LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC,
SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: CLASSIFICATION AND DIAGNOSIS OF THE MOLECULAR BASIS OF CHOLESTASIS

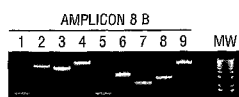
A

AMPLICON	ATP8B1	Regions	TARGET Length	Amplicon Length	Forward Primer	Reverse Primer
8B1#1	C20	Promoter/Exon 1	483	1601	B1_3389	B1_4989
8B1#2	C1	Exon 2-5	5593	7036	8B1_E2-5_L	8B1_E2-5_R
8B1#3	C2	Exon 6-10	3330	5712	B1_32900	B1_38611
8B1#4	C3	Exon 11-14	8006	8942	8B1_E11-14_L	8B1_E11-14_R
8B1#5	C19	Exon 15	277	1515	B1_60572f	B1_62086r
8B1#6	C30	Exon 16-17	2307	3289	B1_64486	B1_67774
8B1#7	C27	Exon 18-19	1493	2338	B1_67745f	B1_70082r
8B1#8	C23	Exon 20-21	1486	2926	B1_72527f	B1_75452r
8B1#9	C4	Exon 22-27	6974	7946	B1_80366f	B1_88311r

B

		SEQ ID NO.
1	B1_3389	1
	B1_4989	2
2	8B1_E2-5_L	3
	8B1_E2-5_R	4
3	B1_32900	5
	B1_38611	6
4	8B1_E11-14_L	7
	8B1_E11-14_R	8
5	B1_60572f	9
	B1_62086r	10
6	B1_64486	11
	B1_67774	12
7	B1_67745f	13
	B1_70082r	14
8	B1_72527f	15
	B1_75452r	16
9	B1_80366f	17
	B1_88311r	18

C

(57) Abstract: The methods and compositions of the
invention find use in the clinical diagnosis of cholestasis
related syndromes, particularly PFIC types 1, 2, and 3; BRIC
types 1 and 2; Alagille syndrome, and alpha1 -antitrypsin
deficiency. The compositions of the invention include isolated
nucleic acid molecules and oligonucleotide pairs suitable
for use in amplifying regions of cholestasis related genes.
Compositions of the invention include a cholestasis related
gene resequencing microarray suitable for determining the
nucleotide sequence of a region of a cholestasis related gene.
Knowledge of the nucleotide sequence of one or more regions
of a patient's cholestasis related gene allows diagnosis of the
patient's syndrome.



Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

CLASSIFICATION AND DIAGNOSIS OF THE MOLECULAR BASIS OF CHOLESTASIS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to, and the benefit of U.S. Provisional Patent Application No:60/703,703 filed on July 29, 2005, which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

[0002] The field of this invention relates to the field of genetic diagnostic assays for cholestasis related syndromes.

BACKGROUND OF THE INVENTION

[0003] Pathological jaundice (here used as a synonym for cholestasis) is the most frequent presenting syndrome in children and adults with liver disease. It results from the impaired excretion of bile from the liver, with a range of underlying causes including genetic, metabolic, inflammatory, and drug- or toxin-induced disorders. Therefore, physicians are challenged to identify the cause of jaundice in order to initiate specific treatment and supportive measures to prevent progression and/or complications of liver disease. The prognosis and treatment course for these cholestasis related syndromes differ widely. Thus, identifying the precise cause of cholestasis or jaundice allows appropriate treatment to be provided to a patient exhibiting cholestasis.

[0004] Progressive familial intrahepatic cholestasis (PFIC), benign recurring intrahepatic cholestasis (BRIC), alpha1-antitrypsin deficiency, and Alagille disease constitute approximately 45% of neonatal jaundice cases. These diseases can be difficult to clinically define. The number and size of the cholestasis related genes underlying PFIC, BRIC, alpha1-antitrypsin deficiency, and Alagille disease has impaired the use of mutation detection as a diagnostic criterion. Cholestasis related genes underlying PFIC, BRIC, alpha1-antitrypsin deficiency, and Alagille disease include, but are not limited to, ATP8B1 (SEQ ID NO:71), ABCB11 (SEQ ID NO:72), ABCB4 (SEQ ID NO:73), JAG1 (SEQ ID NO:74), and SERPINA1 (SEQ ID NO:75). ATP8B1 is located on the long arm of chromosome 18 at 18q21.31. ABCB11 is located on the long arm of chromosome 2 at 2q24. ABCB4 is located on the long arm

of chromosome 7 at 7q21.1. JAG1 is located on the short arm of chromosome 20 at 20p12.1-p11.23. SERPINA1 is located on the long arm of chromosome 14 at 14q32.1.

[0005] Development of efficient, accurate, sensitive methods of detecting mutations in the genes associated with cholestasis, particularly PFIC, BRIC, alpha1-antitrypsin deficiency, and Alagille syndrome is desirable. It is of importance to develop a method of predicting disease outcome with respect to treatment course. It is of particular importance to develop a method of determining cholestasis classification that would identify subjects likely to benefit from early aggressive treatment.

SUMMARY OF THE INVENTION

[0006] Compositions and methods for diagnosing cholestasis related syndromes are provided. The inventions are based on identification of nucleotide sequences for amplifying and sequencing the 5' regulatory regions, exons, and exon-intron boundaries of several cholestasis related genes: ATP8B1 (SEQ ID NO:71); ABCB11 (SEQ ID NO:72); ABCB4 (SEQ ID NO:73); JAG1 (SEQ ID NO:74); and SERPIN-1 (SEQ ID NO:75). The compositions of the invention allow amplification of the cholestasis related gene exons; exon-intron boundaries; and 5' regulatory regions and sequencing of the cholestasis related gene exons, exon-intron boundaries, and the 5' upstream region. The cholestasis related gene exon, exon-intron boundary, and the 5' upstream region nucleotide sequences provide prognostic and diagnostic information for cholestasis related syndromes.

[0007] Compositions of the invention include isolated nucleic acid molecules comprising the nucleotide sequences set forth in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43,

SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:49, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:70, and variants thereof. Variant nucleotide sequences of the invention differ by one nucleotide alteration from the nucleotide sequences set forth in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:49, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:70, or hybridize under stringent conditions to a complement of a nucleotide sequence of the invention.

[0008] Compositions of the invention include an oligonucleotide pair library comprised of at least one oligonucleotide pair. Compositions of the invention further include oligonucleotide pairs comprising a first nucleic acid molecule and a second nucleic acid molecule. Oligonucleotide pairs of the invention allow amplification of a region of a cholestasis related gene. Nucleotide sequences of the first nucleic acid molecule in an oligonucleotide pair are set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID

NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, SEQ ID NO:69, and variants thereof. Nucleotide sequences of the second nucleic acid molecule in an oligonucleotide pair are set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, SEQ ID NO:70, and variants thereof.

[0009] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12 or a variant thereof.

thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the ATP8B1 protein gene (SEQ ID NO:71).

[0010] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 or a variant thereof and a second nucleic acid

molecule having the nucleotide sequence set forth in SEQ ID NO:30 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:38 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the ABCB11 protein gene (SEQ ID NO:72).

[0011] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 or a

variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the ABCB4 protein gene (SEQ ID NO:73).

[0012] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first

nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the JAG1 protein gene (SEQ ID NO:74).

[0013] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the SERPINA-1 protein gene (SEQ ID NO:75).

[0014] Compositions of the invention include a resequencing microarray consisting of nucleic acid probes having a nucleotide sequence derived from the nucleotide sequences set forth in SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:73, SEQ ID NO:74, and SEQ ID NO:75. The nucleic acid probes are of a predetermined length, such as 25 nucleotides. Each probe has a predetermined nucleotide sequence that is a segment of the nucleotide sequence set forth in nucleotides 1 to 483 of SEQ ID NO:71; nucleotides 25,479 to 25,620 of SEQ ID NO:71; nucleotides 27,398 to 27,555 of SEQ ID NO:71; nucleotides 30,753 to 30,895 of SEQ ID NO:71; nucleotides 30,966 to 31,071 of SEQ ID NO:71; nucleotides 34,199 to 34,315 of SEQ ID NO:71; nucleotides 34,378 to 34,492 of SEQ ID NO:71; nucleotides 36,534 to 36,660 of SEQ ID NO:71; nucleotides 36,737 to 36,939 of SEQ ID NO:71; nucleotides 37,396 to 37,528 of SEQ ID NO:71; nucleotides 40,069 to 40,303 of SEQ ID NO:71; nucleotides 43,559 to 43,811 of SEQ ID NO:71; nucleotides 46,951 to 47,038 of SEQ ID NO:71; nucleotides 47,874 to 48,074 of SEQ ID NO:71; nucleotides 57,044 to 57,276 of SEQ ID NO:71; nucleotides 60,486 to 60,642 of SEQ ID NO:71; nucleotides 62,584 to 62,792 of SEQ ID NO:71; nucleotides 63,526 to 63,681 of SEQ ID NO:71; nucleotides 64,899 to 65,018 of SEQ ID NO:71; nucleotides 69,451 to 69,627 of SEQ ID NO:71; nucleotides 70,604 to 70,936 of SEQ ID NO:71;

nucleotides 76,649 to 76,916 of SEQ ID NO:71; nucleotides 77,991 to 78,118 of SEQ ID NO:71; nucleotides 79,337 to 79,626 of SEQ ID NO:71; nucleotides 79,894 to 80,076 of SEQ ID NO:71; nucleotides 81,569 to 81,743 of SEQ ID NO:71; nucleotides 83,354 to 83,756 of SEQ ID NO:71; nucleotides 1 to 401 of SEQ ID NO:72; nucleotides 13,430 to 13,576 of SEQ ID NO:72; nucleotides 14,783 to 14,848 of SEQ ID NO:72; nucleotides 17,228 to 17,323 of SEQ ID NO:72; nucleotides 18,072 to 18,354 of SEQ ID NO:72; nucleotides 34,860 to 34,991 of SEQ ID NO:72; nucleotides 36,100 to 36,277 of SEQ ID NO:72; nucleotides 37,700 to 37,915 of SEQ ID NO:72; nucleotides 40,657 to 40,825 of SEQ ID NO:72; nucleotides 45,298 to 45,516 of SEQ ID NO:72; nucleotides 51,603 to 51,760 of SEQ ID NO:72; nucleotides 54,895 to 55,049 of SEQ ID NO:72; nucleotides 57,742 to 57,911 of SEQ ID NO:72; nucleotides 59,532 to 59,779 of SEQ ID NO:72; nucleotides 61,367 to 61,581 of SEQ ID NO:72; nucleotides 62,031 to 62,276 of SEQ ID NO:72; nucleotides 63,092 to 63,199 of SEQ ID NO:72; nucleotides 67,274 to 67,420 of SEQ ID NO:72; nucleotides 73,454 to 73,662 of SEQ ID NO:72; nucleotides 86,621 to 86,769 of SEQ ID NO:72; nucleotides 86,816 to 87,021 of SEQ ID NO:72; nucleotides 95,149 to 95,396 of SEQ ID NO:72; nucleotides 96,157 to 96,442 of SEQ ID NO:72; nucleotides 99,049 to 99,249 of SEQ ID NO:72; nucleotides 100,720 to 100,961 of SEQ ID NO:72; nucleotides 104,220 to 104,470 of SEQ ID NO:72; nucleotides 106,779 to 106,969 of SEQ ID NO:72; nucleotides 107,760 to 108,687 of SEQ ID NO:72; nucleotides 1 to 1,802 of SEQ ID NO:73; nucleotides 1,803 to 2,186 of SEQ ID NO:73; nucleotides 2,299 to 2,400 of SEQ ID NO:73; nucleotides 3,075 to 3,254 of SEQ ID NO:73; nucleotides 3,611 to 3,760 of SEQ ID NO:73; nucleotides 3,879 to 4,008 of SEQ ID NO:73; nucleotides 6,675 to 6,773 of SEQ ID NO:73; nucleotides 16,442 to 16,636 of SEQ ID NO:73; nucleotides 24,758 to 24,859 of SEQ ID NO:73; nucleotides 26,215 to 26,450 of SEQ ID NO:73; nucleotides 27,556 to 27,771 of SEQ ID NO:73; nucleotides 29,258 to 29,426 of SEQ ID NO:73; nucleotides 32,145 to 32,360 of SEQ ID NO:73; nucleotides 34,375 to 34,532 of SEQ ID NO:73; nucleotides 35,577 to 35,731 of SEQ ID NO:73; nucleotides 35,906 to 36,075 of SEQ ID NO:73; nucleotides 38,948 to 39,195 of SEQ ID NO:73; nucleotides 39,513 to 39,721 of SEQ ID NO:73; nucleotides 47,785 to 47,990 of SEQ ID NO:73; nucleotides 52,430 to 52,644 of SEQ ID NO:73; nucleotides 55,298 to 55,488 of SEQ ID NO:73; nucleotides 57,125 to 57,273 of SEQ ID NO:73; nucleotides 59,275 to 59,396 of SEQ ID NO:73; nucleotides 60,730 to 60,857 of SEQ

ID NO:73; nucleotides 61,835 to 62,082 of SEQ ID NO:73; nucleotides 65,633 to 65,777 of SEQ ID NO:73; nucleotides 67,317 to 67,501 of SEQ ID NO:73; nucleotides 69,958 to 70,158 of SEQ ID NO:73; nucleotides 71,116 to 71,357 of SEQ ID NO:73; nucleotides 72,835 to 73,106 of SEQ ID NO:73; nucleotides 76,069 to 76,259 of SEQ ID NO:73; nucleotides 77,048 to 77,349 of SEQ ID NO:73; nucleotides 1 to 1,015 of SEQ ID NO:74; nucleotides 1,415 to 1,764 of SEQ ID NO:74; nucleotides 6,490 to 6,689 of SEQ ID NO:74; nucleotides 8,080 to 8,239 of SEQ ID NO:74; nucleotides 10,407 to 10,502 of SEQ ID NO:74; nucleotides 15,699 to 15,997 of SEQ ID NO:74; nucleotides 17,963 to 18,067 of SEQ ID NO:74; nucleotides 21,823 to 21,997 of SEQ ID NO:74; nucleotides 22,171 to 22,334 of SEQ ID NO:74; nucleotides 22,727 to 22,884 of SEQ ID NO:74; nucleotides 24,061 to 24,218 of SEQ ID NO:74; nucleotides 24,786 to 24,943 of SEQ ID NO:74; nucleotides 25,314 to 25,404 of SEQ ID NO:74; nucleotides 25,699 to 25,916 of SEQ ID NO:74; nucleotides 26,311 to 26,505 of SEQ ID NO:74; nucleotides 27,318 to 27,526 of SEQ ID NO:74; nucleotides 28,337 to 28,494 of SEQ ID NO:74; nucleotides 28,952 to 29,109 of SEQ ID NO:74; nucleotides 29,165 to 29,322 of SEQ ID NO:74; nucleotides 29,442 to 29,602 of SEQ ID NO:74; nucleotides 30,037 to 30,108 of SEQ ID NO:74; nucleotides 30,558 to 30,687 of SEQ ID NO:74; nucleotides 31,820 to 31,977 of SEQ ID NO:74; nucleotides 32,529 to 32,682 of SEQ ID NO:74; nucleotides 32,728 to 33,005 of SEQ ID NO:74; nucleotides 33,177 to 33,352 of SEQ ID NO:74; nucleotides 33,488 to 33,682 of SEQ ID NO:74; nucleotides 34,466 to 36,779 of SEQ ID NO:74; nucleotides 1 to 538 of SEQ ID NO:75; nucleotides 539 to 792 of SEQ ID NO:75; nucleotides 886 to 1,033 of SEQ ID NO:75; nucleotides 6,308 to 7,001 of SEQ ID NO:75; nucleotides 8,408 to 8,722 of SEQ ID NO:75; nucleotides 9,938 to 10,129 of SEQ ID NO:75; or nucleotides 10,909 to 11,232 of SEQ ID NO:75 or differs by one predetermined nucleotide alteration from a segment of the nucleotide sequence set forth in nucleotides 1 to 483 of SEQ ID NO:71; nucleotides 25,479 to 25,620 of SEQ ID NO:71; nucleotides 27,398 to 27,555 of SEQ ID NO:71; nucleotides 30,753 to 30,895 of SEQ ID NO:71; nucleotides 30,966 to 31,071 of SEQ ID NO:71; nucleotides 34,199 to 34,315 of SEQ ID NO:71; nucleotides 34,378 to 34,492 of SEQ ID NO:71; nucleotides 36,534 to 36,660 of SEQ ID NO:71; nucleotides 36,737 to 36,939 of SEQ ID NO:71; nucleotides 37,396 to 37,528 of SEQ ID NO:71; nucleotides 40,069 to 40,303 of SEQ ID NO:71; nucleotides 43,559 to 43,811 of SEQ ID NO:71; nucleotides 46,951 to

47,038 of SEQ ID NO:71; nucleotides 47,874 to 48,074 of SEQ ID NO:71;
nucleotides 57,044 to 57,276 of SEQ ID NO:71; nucleotides 60,486 to 60,642 of SEQ
ID NO:71; nucleotides 62,584 to 62,792 of SEQ ID NO:71; nucleotides 63,526 to
63,681 of SEQ ID NO:71; nucleotides 64,899 to 65,018 of SEQ ID NO:71;
nucleotides 69,451 to 69,627 of SEQ ID NO:71; nucleotides 70,604 to 70,936 of SEQ
ID NO:71; nucleotides 76,649 to 76,916 of SEQ ID NO:71; nucleotides 77,991 to
78,118 of SEQ ID NO:71; nucleotides 79,337 to 79,626 of SEQ ID NO:71;
nucleotides 79,894 to 80,076 of SEQ ID NO:71; nucleotides 81,569 to 81,743 of SEQ
ID NO:71; nucleotides 83,354 to 83,756 of SEQ ID NO:71; nucleotides 1 to 401 of
SEQ ID NO:72; nucleotides 13,430 to 13,576 of SEQ ID NO:72; nucleotides 14,783
to 14,848 of SEQ ID NO:72; nucleotides 17,228 to 17,323 of SEQ ID NO:72;
nucleotides 18,072 to 18,354 of SEQ ID NO:72; nucleotides 34,860 to 34,991 of SEQ
ID NO:72; nucleotides 36,100 to 36,277 of SEQ ID NO:72; nucleotides 37,700 to
37,915 of SEQ ID NO:72; nucleotides 40,657 to 40,825 of SEQ ID NO:72;
nucleotides 45,298 to 45,516 of SEQ ID NO:72; nucleotides 51,603 to 51,760 of SEQ
ID NO:72; nucleotides 54,895 to 55,049 of SEQ ID NO:72; nucleotides 57,742 to
57,911 of SEQ ID NO:72; nucleotides 59,532 to 59,779 of SEQ ID NO:72;
nucleotides 61,367 to 61,581 of SEQ ID NO:72; nucleotides 62,031 to 62,276 of SEQ
ID NO:72; nucleotides 63,092 to 63,199 of SEQ ID NO:72; nucleotides 67,274 to
67,420 of SEQ ID NO:72; nucleotides 73,454 to 73,662 of SEQ ID NO:72;
nucleotides 86,621 to 86,769 of SEQ ID NO:72; nucleotides 86,816 to 87,021 of SEQ
ID NO:72; nucleotides 95,149 to 95,396 of SEQ ID NO:72; nucleotides 96,157 to
96,442 of SEQ ID NO:72; nucleotides 99,049 to 99,249 of SEQ ID NO:72;
nucleotides 100,720 to 100,961 of SEQ ID NO:72; nucleotides 104,220 to 104,470 of
SEQ ID NO:72; nucleotides 106,779 to 106,969 of SEQ ID NO:72; nucleotides
107,760 to 108,687 of SEQ ID NO:72; nucleotides 1 to 1,802 of SEQ ID NO:73;
nucleotides 1,803 to 2,186 of SEQ ID NO:73; nucleotides 2,299 to 2,400 of SEQ ID
NO:73; nucleotides 3,075 to 3,254 of SEQ ID NO:73; nucleotides 3,611 to 3,760 of
SEQ ID NO:73; nucleotides 3,879 to 4,008 of SEQ ID NO:73; nucleotides 6,675 to
6,773 of SEQ ID NO:73; nucleotides 16,442 to 16,636 of SEQ ID NO:73; nucleotides
24,758 to 24,859 of SEQ ID NO:73; nucleotides 26,215 to 26,450 of SEQ ID NO:73;
nucleotides 27,556 to 27,771 of SEQ ID NO:73; nucleotides 29,258 to 29,426 of SEQ
ID NO:73; nucleotides 32,145 to 32,360 of SEQ ID NO:73; nucleotides 34,375 to
34,532 of SEQ ID NO:73; nucleotides 35,577 to 35,731 of SEQ ID NO:73;

nucleotides 35,906 to 36,075 of SEQ ID NO:73; nucleotides 38,948 to 39,195 of SEQ ID NO:73; nucleotides 39,513 to 39,727 of SEQ ID NO:73; nucleotides 47,785 to 47,990 of SEQ ID NO:73; nucleotides 52,430 to 52,644 of SEQ ID NO:73; nucleotides 55,298 to 55,488 of SEQ ID NO:73; nucleotides 57,125 to 57,273 of SEQ ID NO:73; nucleotides 59,275 to 59,396 of SEQ ID NO:73; nucleotides 60,730 to 60,857 of SEQ ID NO:73; nucleotides 61,835 to 62,082 of SEQ ID NO:73; nucleotides 65,633 to 65,777 of SEQ ID NO:73; nucleotides 67,317 to 67,501 of SEQ ID NO:73; nucleotides 69,958 to 70,158 of SEQ ID NO:73; nucleotides 71,116 to 71,357 of SEQ ID NO:73; nucleotides 72,835 to 73,106 of SEQ ID NO:73; nucleotides 76,069 to 76,259 of SEQ ID NO:73; nucleotides 77,048 to 77,349 of SEQ ID NO:73; nucleotides 1 to 1,015 of SEQ ID NO:74; nucleotides 1,415 to 1,764 of SEQ ID NO:74; nucleotides 6,490 to 6,689 of SEQ ID NO:74; nucleotides 8,080 to 8,239 of SEQ ID NO:74; nucleotides 10,407 to 10,502 of SEQ ID NO:74; nucleotides 15,699 to 15,997 of SEQ ID NO:74; nucleotides 17,963 to 18,067 of SEQ ID NO:74; nucleotides 21,823 to 21,997 of SEQ ID NO:74; nucleotides 22,171 to 22,334 of SEQ ID NO:74; nucleotides 22,727 to 22,884 of SEQ ID NO:74; nucleotides 24,061 to 24,218 of SEQ ID NO:74; nucleotides 24,786 to 24,943 of SEQ ID NO:74; nucleotides 25,314 to 25,404 of SEQ ID NO:74; nucleotides 25,699 to 25,916 of SEQ ID NO:74; nucleotides 26,311 to 26,505 of SEQ ID NO:74; nucleotides 27,318 to 27,526 of SEQ ID NO:74; nucleotides 28,337 to 28,494 of SEQ ID NO:74; nucleotides 28,952 to 29,109 of SEQ ID NO:74; nucleotides 29,165 to 29,322 of SEQ ID NO:74; nucleotides 29,442 to 29,602 of SEQ ID NO:74; nucleotides 30,037 to 30,108 of SEQ ID NO:74; nucleotides 30,558 to 30,687 of SEQ ID NO:74; nucleotides 31,820 to 31,977 of SEQ ID NO:74; nucleotides 32,529 to 32,682 of SEQ ID NO:74; nucleotides 32,728 to 33,005 of SEQ ID NO:74; nucleotides 33,177 to 33,352 of SEQ ID NO:74; nucleotides 33,488 to 33,682 of SEQ ID NO:74; nucleotides 34,466 to 36,779 of SEQ ID NO:74; nucleotides 1 to 538 of SEQ ID NO:75; nucleotides 539 to 792 of SEQ ID NO:75; nucleotides 886 to 1,033 of SEQ ID NO:75; nucleotides 6,308 to 7,001 of SEQ ID NO:75; nucleotides 8,408 to 8,722 of SEQ ID NO:75; nucleotides 9,938 to 10,129 of SEQ ID NO:75; or nucleotides 10,909 to 11,232 of SEQ ID NO:75.

[0015] Compositions of the invention include a kit comprising a cholestasis related gene resequencing microarray and at least one oligonucleotide pair of the invention. In an aspect, the kit further comprises a standard sequence profile.

[0016] Methods of the invention include methods of determining the nucleotide sequence of a region of a cholestasis related gene of a human subject. The method involves the steps of obtaining a biological sample from the subject, providing an oligonucleotide pair of the invention, performing enzymatic amplification of a region of a cholestasis related gene, providing amplified DNA, and determining the nucleotide sequence of a region of a cholestasis related gene. In an aspect, the method involves the step of providing a cholestasis related gene resequencing microarray. In an aspect, the nucleotide sequence of one or multiple amplified regions is determined. In an aspect the nucleotide sequence of a region of at least one, two, three, four, or five cholestasis related genes is compared with a standard sequence profile. In an aspect of the invention, the cholestasis related gene is selected from the group consisting of ATP8B1 (SEQ ID NO:71), ABCB4 (SEQ ID NO:73), ABCB11 (SEQ ID NO:72), JAG1 (SEQ ID NO:74), and SERPINA-1 (SEQ ID NO:75).

[0017] Methods of the invention include methods of diagnosing a cholestasis related syndrome. The methods involve the steps of obtaining a biological sample from a human subject exhibiting cholestasis, performing enzymatic amplification of a region of a cholestasis related gene, providing amplified DNA having the nucleotide sequence of a region of a cholestasis related gene, determining the nucleotide sequence of the amplified DNA, and comparing the nucleotide sequence of the amplified DNA with a standard sequence profile. In an aspect, the method comprises the step of providing a cholestasis related gene resequencing microarray. Cholestasis related syndromes include, but are not limited to, cholestasis, neonatal cholestasis, progressive familial intrahepatic cholestasis, benign recurrent intrahepatic cholestasis, alpha-1 anti-trypsin deficiency, Alagille syndrome, intrahepatic cholestasis of pregnancy, primary sclerosing cholangitis, biliary atresia, cholelithiasis, cirrhosis of the liver, and septicemia. In an aspect, the method comprises the step of providing at least one oligonucleotide pair of the invention. In an aspect, enzymatic amplification

of multiple regions, including regions of multiple cholestasis related genes, occurs. In an aspect, the nucleotide sequences of multiple amplified DNA are determined.

[0018] Methods of the invention include methods of determining the cholestasis classification of a subject exhibiting cholestasis. The methods comprise the steps of obtaining a biological sample from the subject, determining the nucleotide sequence of a region of a cholestasis related gene of the human subject, and comparing the nucleotide sequence of the region with a standard sequence profile. In an aspect of the method, the step of determining the nucleotide sequence further comprises the steps of performing enzymatic amplification of a region of a cholestasis related gene, providing amplified DNA having the nucleotide sequence of a region of a cholestasis related gene, and providing a cholestasis related gene resequencing microarray.

[0019] Methods of the invention include methods of predicting the prognosis for a subject exhibiting cholestasis. The methods comprise the steps of obtaining a biological sample from the subject, determining the nucleotide sequence of a region of a cholestasis related gene of the human subject, and comparing the nucleotide sequence of the region with a standard sequence profile. In an aspect of the method, the step of determining the nucleotide sequence further comprises the steps of performing enzymatic amplification of a region of a cholestasis related gene, providing amplified DNA having the nucleotide sequence of a region of a cholestasis related gene, and providing a cholestasis related gene resequencing microarray.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] Figure 1 presents the ATP8B1 oligonucleotide primer pairs, the amplicon size, the relative genomic location of the amplicon, and the size of the targets tiled on the resequencing microarray in Panel A. Panel B presents working oligonucleotide names, the nucleotide sequence of each primer, and the SEQ ID NO:. Panel C presents a photograph of the PCR amplification products. PCR reactions were performed with the indicated oligonucleotide pair: Lane 1 (SEQ ID NO:1 and SEQ ID NO:2), Lane 2 (SEQ ID NO:3 and SEQ ID NO:4), Lane 3 (SEQ ID NO:5 and SEQ ID NO:6), Lane 4 (SEQ ID NO:7 and SEQ ID NO:8), Lane 5 (SEQ ID NO:9 and SEQ ID NO:10), Lane 6 (SEQ ID NO:11 and SEQ ID NO:12), Lane 7 (SEQ ID

NO:13 and SEQ ID NO:14), Lane 8 (SEQ ID NO:15 and SEQ ID NO:16), Lane 9 (SEQ ID NO:17 and SEQ ID NO:18), and size markers (MW).

[0021] Figure 2 presents the ABCB11 oligonucleotide primer pairs, the amplicon size, the relative genomic location of the amplicon, and the size of the targets tiled on the resequencing microarray in Panel A. Panel B presents working oligonucleotide names, the nucleotide sequence of each primer, and the SEQ ID NO:. Panel C presents a photograph of the PCR amplification products. PCR reactions were performed with the indicated oligonucleotide pair: Lane 1 (SEQ ID NO:19 and SEQ ID NO:20), Lane 2 (SEQ ID NO:21 and SEQ ID NO:22), Lane 3 (SEQ ID NO:23 and SEQ ID NO:24), Lane 4 (SEQ ID NO:25 and SEQ ID NO:26), Lane 5 (SEQ ID NO:27 and SEQ ID NO:28), Lane 6 (SEQ ID NO:29 and SEQ ID NO:30), Lane 7 (SEQ ID NO:31 and SEQ ID NO:32), Lane 8 (SEQ ID NO:33 and SEQ ID NO:34), Lane 9 (SEQ ID NO:35 and SEQ ID NO:36), Lane 10 (SEQ ID NO:37 and SEQ ID NO:38), and size markers (MW).

[0022] Figure 3 presents the ABCB4 oligonucleotide primer pairs, the amplicon size, the relative genomic location of the amplicon, and the size of the targets tiled on the resequencing microarray in Panel A. Panel B presents working oligonucleotide names, the nucleotide sequence of each primer, and the SEQ ID NO:. Panel C presents a photograph of the PCR amplification products. PCR reactions were performed with the indicated oligonucleotide pair: Lane 1 (SEQ ID NO:39 and SEQ ID NO:40), Lane 2 (SEQ ID NO:41 and SEQ ID NO:42), Lane 3 (SEQ ID NO:43 and SEQ ID NO:44), Lane 4 (SEQ ID NO:45 and SEQ ID NO:46), Lane 5 (SEQ ID NO:47 and SEQ ID NO:48), Lane 6 (SEQ ID NO:49 and SEQ ID NO:50), Lane 7 (SEQ ID NO:51 and SEQ ID NO:52), Lane 8 (SEQ ID NO:53 and SEQ ID NO:54), Lane 9 (SEQ ID NO:55 and SEQ ID NO:56), and size markers (MW).

[0023] Figure 4 presents the JAG1 oligonucleotide primer pairs, the amplicon size, the relative genomic location of the amplicon, and the size of the targets tiled on the resequencing microarray in Panel A. Panel B presents working oligonucleotide names, the nucleotide sequence of each primer, and the SEQ ID NO:. Panel C presents a photograph of the PCR amplification products. PCR reactions were performed with the indicated oligonucleotide pair: Lane 1 (SEQ ID NO:57 and SEQ

ID NO:58), Lane 2 (SEQ ID NO:59 and SEQ ID NO:60), Lane 3 (SEQ ID NO:61 and SEQ ID NO:62), Lane 4 (SEQ ID NO:63 and SEQ ID NO:64), Lane 5 (SEQ ID NO:65 and SEQ ID NO:66), and size markers (MW).

[0024] Figure 5 presents the SERPINA1 oligonucleotide primer pairs, the amplicon size, the relative genomic location of the amplicon, and the size of the targets tiled on the resequencing microarray in Panel A. Panel B presents working oligonucleotide names, the nucleotide sequence of each primer, and the SEQ ID NO:.. Panel C presents a photograph of the PCR amplification products. PCR reactions were performed with the indicated oligonucleotide pair: Lane 1 (SEQ ID NO:67 and SEQ ID NO:68), Lane 2 (SEQ ID NO:69 and SEQ ID NO:70), and size markers (MW).

DETAILED DESCRIPTION OF THE INVENTION

[0025] The present invention provides methods of determining the nucleotide sequence of a region of a cholestasis related gene, classifying disease, particularly cholestasis related syndromes, diagnosing a cholestasis related syndrome, and predicting the prognosis of a cholestasis related syndrome. The invention provides methods of amplifying a region or regions of various cholestasis related genes, and methods of determining the nucleotide sequence of a region or regions of various cholestasis related genes. Compositions of the invention include isolated nucleic acid molecules and oligonucleotide pairs useful in amplifying a region or regions of various cholestasis related genes as well as kits for performing the methods of the invention. Compositions of the invention include a resequencing microarray useful in determining the nucleotide sequence of the promoter region, exon regions, and exon/intron boundaries of various cholestasis related genes as well as kits for performing the methods of the invention. The invention relates to identification of genomic nucleotide alterations in a cholestasis related gene in various cholestasis related syndromes.

[0026] Cholestasis related syndromes are characterized by an impaired excretion of bile from the liver resulting in elevated bilirubin levels in the bloodstream. Cholestasis related syndromes include, but are not limited to, pathological jaundice, cancer, obstruction of the biliary duct by gall stones, inflammatory masses, or tumors, cholecystitis, pancreatic carcinoma, cholestasis, Gilbert's disease, acetaminophen

overdose, hepatitis B infection, hemolysis, hereditary spherocytosis, conjugated hyperbilirubinemia, acholuric jaundice, breastfeeding jaundice, breast milk jaundice, cholestatic jaundice, congenital jaundice, hematogenous jaundice, hemolytic jaundice, hemorrhagic jaundice, hepatocellular jaundice, infectious jaundice, jaundice of the newborn, nonhemolytic jaundice, obstructive jaundice, pathological jaundice of the newborn, parenchymatous jaundice, retention jaundice, Alagille disease, biliary atresia, progressive familial intrahepatic cholestasis (PFIC), PFIC type I, PFIC type II, and PFIC type III, benign recurring intrahepatic cholestasis (BRIC), BRIC type I, BRIC type II, alpha1-antitrypsin deficiency, Alagille syndrome, intrahepatic cholestasis of pregnancy, primary sclerosing cholangitis, neonatal cholestasis, cholelithiasis, cirrhosis of the liver, cholangitis, Byler Disease, Byler Syndrome, cholelithiasis, liver disease related to total parenteral nutrition, chronic lung disease, congenital heart disease, exocrine pancreatic deficiency, and septicemia.

[0027] Cholestasis related phenotypes include, but are not limited to, jaundice, altered enzyme levels, growth failure, discolored urine, discolored stools, pruritis, abnormal bleeding, steatorrhea, elevated alkaline phosphatase levels, altered bilirubin levels, clotting rate, fatigue, loss of appetite, asthma-like symptoms, hyperlipidemia, xanthoma formation, and cirrhosis.

[0028] Methods of measuring cholestasis related phenotypes include, but are not limited to, physical examination, bilirubin assays, ultrasounds, computed tomography, liver biopsy, endoscopy, magnetic resonance imaging, enzymatic assays including, but not limited to, alanine transaminase, albumin, alkaline phosphatase, alpha-fetoprotein, aspartate transaminase, gamma-glutamyl transpeptidase, lactic dehydrogenase, mitochondrial antibodies, 5'-nucleotidase, and prothrombin assays; endoscopic retrograde cholangiopancreatography, percutaneous transhepatic cholangiography, and operative cholangiography.

[0029] Compositions of the invention include isolated nucleic acid molecules having the nucleotide sequences set forth in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID

NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:49, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, and SEQ ID NO:70, or a fragment or variants thereof. Isolated nucleic acid molecules of the invention anneal to a nucleotide sequence of interest.

[0030] Nucleotide sequences of interest in the present invention include numerous cholestasis related compounds. Cholestasis related genes include, but are not limited to, ATP8B1 (SEQ ID NO:71); ABCB11 (SEQ ID NO:72); ABCB4 (SEQ ID NO:73); JAG1 (SEQ ID NO:74); and SERPINA-1 or SERPIN-1 (SEQ ID NO:75). Portions of the first intron sequence of ABCB4 (SEQ ID NO:73) and SERPINA-1 (SEQ ID NO:75) are not included in the sequence listing. The invention particularly pertains to nucleotide sequence alterations in the 5' upstream regions, exons, and exon-intron boundary regions of the cholestasis related genes, thus selected regions of ATP8B1 (SEQ ID NO:71); ABCB11 (SEQ ID NO:72); ABCB4 (SEQ ID NO:73); JAG1 (SEQ ID NO:74); and SERPINA-1 (SEQ ID NO:75) are of particular interest.

[0031] Nucleic acid molecules having a nucleotide sequence set forth in SEQ ID NOS:1-18 anneal to the ATP8B1 gene (SEQ ID NO:71). Nucleic acid molecules having a nucleotide sequence set forth in SEQ ID NOS:19-38 anneal to the ABCB11 gene (SEQ ID NO:72). Nucleic acid molecules having a nucleotide sequence set forth in SEQ ID NOS:39-56 anneal to the ABCB4 gene (SEQ ID NO:73). Nucleic acid molecules having a nucleotide sequence set forth in SEQ ID NOS:57-66 anneal to the JAG1 gene (SEQ ID NO:74). Nucleic acid molecules having a nucleotide sequence set forth in SEQ ID NOS:67-70 anneal to the SERPINA-1 gene (SEQ ID NO:75).

[0032] The invention encompasses isolated or substantially purified nucleic acid compositions. An “isolated” or substantially “purified” nucleic acid molecule is substantially free of other cellular material, or culture medium when produced by recombinant techniques or substantially free of chemical precursors or other chemicals when chemically synthesized. A substantially purified preparation of nucleic acid molecules, particularly isolated nucleic acid molecules as used herein, means a preparation of nucleic acid molecules in which at least 70% of the nucleic acid molecules, preferably at least 80% of the nucleic acid molecules, more preferably at least 85% of the nucleic acid molecules, yet more preferably 90%, most preferably at least 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99% or more of the nucleic acid molecules are the subject sequence.

[0033] By fragments or variants thereof is intended isolated nucleic acid molecules having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70 or a nucleotide sequence that hybridizes under stringent conditions to a complement of SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70. A fragment or variant that differs by one nucleotide alteration from a nucleotide sequence set forth in SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, or 70 differs from that nucleotide sequence by the addition, insertion, deletion, removal, subtraction, or substitution of one nucleotide. Fragments or variants include isolated nucleic acid molecules having a nucleotide sequence that hybridizes under stringent conditions to a complement of SEQ ID NO:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, or 70.

[0034] By "stringent conditions" or "stringent hybridization conditions" is intended conditions under which a molecule will hybridize to its target sequence to a detectably greater degree than to other sequences (e.g., at least 2-fold over background).

Microarray hybridization conditions are discussed elsewhere herein. Stringent conditions are sequence-dependent and will be different in different circumstances. By controlling the stringency of the hybridization and/or washing conditions, target sequences that are 100% complementary can be identified (homologous probing). Alternatively, stringency conditions can be adjusted to allow some mismatching in sequences so that lower degrees of similarity are detected (heterologous probing). Generally, a hybridization fragment is less than about 1000 nucleotides in length, preferably less than 500 nucleotides in length.

[0035] Typically, stringent conditions will be those in which the salt concentration is less than about 1.5 M Na ion, typically about 0.01 to 1.0 M Na ion concentration (or other salts) at pH 7.0 to 8.3 and the temperature is at least about 30°C for short probes (e.g., 10 to 50 nucleotides) and at least about 60°C for long probes (e.g., greater than 50 nucleotides). Stringent conditions may also be achieved with the addition of destabilizing agents such as formamide. Exemplary low stringency conditions include hybridization with a buffer solution of 30 to 35% formamide, 1 M NaCl, 1% SDS (sodium dodecyl sulphate) at 37°C, and a wash in 1 X to 2 X SSC (20 X SSC=3.0 M NaCl/0.3 M trisodium citrate) at 50 to 55°C. Exemplary moderate stringency conditions include hybridization in 40 to 45% formamide, 1.0 M NaCl, 1% SDS at 37°C, and a wash in 0.5 X to 1 X SSC at 55 to 60°C. Exemplary high stringency conditions include hybridization in 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1 X SSC at 60 to 65°C. Duration of hybridization is generally less than about 24 hours, usually about 4 to about 12 hours.

[0036] By "region" is intended a portion of the entire nucleotide sequence of interest, such as the genomic ATP8B1 gene, ABCB11 gene, ABCB4 gene, JAG1 gene, and SERPINA-1 gene. A region of a nucleotide sequence of interest, such as a genomic cholestasis related gene may range from 16, 20, 50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 800, 900, 1,000, 1,100, 1,200, 1,300, 1,400, 1,450, 1,500, 1,550, 1,600, 1,650, 1,700, 1,750, 1,800, 1,850, 1,900, 1,950, 2,000, 2,050, 2,100, 2,150, 2,200, 2,250, 2,300, 2,350, 2,400, 2,450, 2,500, 2,550, 2,600, 2,650, 2,700, 2,750,

2800, 2850, 2900, 2950, 3000, 3050, 3100, 3150, 3200, 3250, 3300, 3350, 3400, 3450, 3500, 3550, 3600, 3650, 3700, 3750, 3800, 3850, 3900, 4000, 4050, 4100, 4150, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 6000, 7000, 8000, 9000, 10000, 20000, 30000, 40000, 50000, 60000, 70000, 80000, 90000, 100000, 108687 nucleotides, or up to the total number of nucleotides present in a full-length nucleotide sequence of interest disclosed herein. Such a region contains nucleotide sequence from the 5' regulatory control sequence, one or more exons, one or more exon-intron boundaries, or one or more introns of a cholestasis related nucleotide sequence of interest. The oligonucleotide pairs of the invention each amplify a different region of a cholestasis related gene. A region may comprise multiple smaller regions. For example, oligonucleotide pair of the invention may amplify a region comprising multiple regions of particular interest.

[0037] Regions of particular interest include, but are not limited to, the nucleotide sequences set forth in nucleotides 1 to 483 of SEQ ID NO:71; nucleotides 25,479 to 25,620 of SEQ ID NO:71; nucleotides 27,398 to 27,555 of SEQ ID NO:71; nucleotides 30,753 to 30,895 of SEQ ID NO:71; nucleotides 30,966 to 31,071 of SEQ ID NO:71; nucleotides 34,199 to 34,315 of SEQ ID NO:71; nucleotides 34,378 to 34,492 of SEQ ID NO:71; nucleotides 36,534 to 36,660 of SEQ ID NO:71; nucleotides 36,737 to 36,939 of SEQ ID NO:71; nucleotides 37,396 to 37,528 of SEQ ID NO:71; nucleotides 40,069 to 40,303 of SEQ ID NO:71; nucleotides 43,559 to 43,811 of SEQ ID NO:71; nucleotides 46,951 to 47,038 of SEQ ID NO:71; nucleotides 47,874 to 48,074 of SEQ ID NO:71; nucleotides 57,044 to 57,276 of SEQ ID NO:71; nucleotides 60,486 to 60,642 of SEQ ID NO:71; nucleotides 62,584 to 62,792 of SEQ ID NO:71; nucleotides 63,526 to 63,681 of SEQ ID NO:71; nucleotides 64,899 to 65,018 of SEQ ID NO:71; nucleotides 69,451 to 69,627 of SEQ ID NO:71; nucleotides 70,604 to 70,936 of SEQ ID NO:71; nucleotides 76,649 to 76,916 of SEQ ID NO:71; nucleotides 77,991 to 78,118 of SEQ ID NO:71; nucleotides 79,337 to 79,626 of SEQ ID NO:71; nucleotides 79,894 to 80,076 of SEQ ID NO:71; nucleotides 81,569 to 81,743 of SEQ ID NO:71; nucleotides 83,354 to 83,756 of SEQ ID NO:71; nucleotides 1 to 401 of SEQ ID NO:72; nucleotides 13,430 to 13,576 of SEQ ID NO:72; nucleotides 14,783 to 14,848 of SEQ ID NO:72; nucleotides 17,228 to 17,323 of SEQ ID NO:72; nucleotides 18,072 to 18,354 of SEQ ID NO:72; nucleotides 34,860 to 34,991 of SEQ ID NO:72; nucleotides 36,100 to

36,277 of SEQ ID NO:72; nucleotides 37,700 to 37,915 of SEQ ID NO:72;
nucleotides 40,657 to 40,825 of SEQ ID NO:72; nucleotides 45,298 to 45,516 of SEQ
ID NO:72; nucleotides 51,603 to 51,760 of SEQ ID NO:72; nucleotides 54,895 to
55,049 of SEQ ID NO:72; nucleotides 57,742 to 57,911 of SEQ ID NO:72;
nucleotides 59,532 to 59,779 of SEQ ID NO:72; nucleotides 61,367 to 61,581 of SEQ
ID NO:72; nucleotides 62,031 to 62,276 of SEQ ID NO:72; nucleotides 63,092 to
63,199 of SEQ ID NO:72; nucleotides 67,274 to 67,420 of SEQ ID NO:72;
nucleotides 73,454 to 73,662 of SEQ ID NO:72; nucleotides 86,621 to 86,769 of SEQ
ID NO:72; nucleotides 86,816 to 87,021 of SEQ ID NO:72; nucleotides 95,149 to
95,396 of SEQ ID NO:72; nucleotides 96,157 to 96,442 of SEQ ID NO:72;
nucleotides 99,049 to 99,249 of SEQ ID NO:72; nucleotides 100,720 to 100,961 of
SEQ ID NO:72; nucleotides 104,220 to 104,470 of SEQ ID NO:72; nucleotides
106,779 to 106,969 of SEQ ID NO:72; nucleotides 107,760 to 108,687 of SEQ ID
NO:72; nucleotides 1 to 1,802 of SEQ ID NO:73; nucleotides 1,803 to 2,186 of SEQ
ID NO:73; nucleotides 2,299 to 2,400 of SEQ ID NO:73; nucleotides 3,075 to 3,254
of SEQ ID NO:73; nucleotides 3,611 to 3,760 of SEQ ID NO:73; nucleotides 3,879 to
4,008 of SEQ ID NO:73; nucleotides 6,675 to 6,773 of SEQ ID NO:73; nucleotides
16,442 to 16,636 of SEQ ID NO:73; nucleotides 24,758 to 24,859 of SEQ ID NO:73;
nucleotides 26,215 to 26,450 of SEQ ID NO:73; nucleotides 27,556 to 27,771 of SEQ
ID NO:73; nucleotides 29,258 to 29,426 of SEQ ID NO:73; nucleotides 32,145 to
32,360 of SEQ ID NO:73; nucleotides 34,375 to 34,532 of SEQ ID NO:73;
nucleotides 35,577 to 35,731 of SEQ ID NO:73; nucleotides 35,906 to 36,075 of SEQ
ID NO:73; nucleotides 38,948 to 39,195 of SEQ ID NO:73; nucleotides 39,513 to
39,727 of SEQ ID NO:73; nucleotides 47,785 to 47,990 of SEQ ID NO:73;
nucleotides 52,430 to 52,644 of SEQ ID NO:73; nucleotides 55,298 to 55,488 of SEQ
ID NO:73; nucleotides 57,125 to 57,273 of SEQ ID NO:73; nucleotides 59,275 to
59,396 of SEQ ID NO:73; nucleotides 60,730 to 60,857 of SEQ ID NO:73;
nucleotides 61,835 to 62,082 of SEQ ID NO:73; nucleotides 65,633 to 65,777 of SEQ
ID NO:73; nucleotides 67,317 to 67,501 of SEQ ID NO:73; nucleotides 69,958 to
70,158 of SEQ ID NO:73; nucleotides 71,116 to 71,357 of SEQ ID NO:73;
nucleotides 72,835 to 73,106 of SEQ ID NO:73; nucleotides 76,069 to 76,259 of SEQ
ID NO:73; nucleotides 77,048 to 77,349 of SEQ ID NO:73; nucleotides 1 to 1,015 of
SEQ ID NO:74; nucleotides 1,415 to 1,764 of SEQ ID NO:74; nucleotides 6,490 to
6,689 of SEQ ID NO:74; nucleotides 8,080 to 8,239 of SEQ ID NO:74; nucleotides

10,407 to 10,502 of SEQ ID NO:74; nucleotides 15,699 to 15,997 of SEQ ID NO:74; nucleotides 17,963 to 18,067 of SEQ ID NO:74; nucleotides 21,823 to 21,997 of SEQ ID NO:74; nucleotides 22,171 to 22,334 of SEQ ID NO:74; nucleotides 22,727 to 22,884 of SEQ ID NO:74; nucleotides 24,061 to 24,218 of SEQ ID NO:74; nucleotides 24,786 to 24,943 of SEQ ID NO:74; nucleotides 25,314 to 25,404 of SEQ ID NO:74; nucleotides 25,699 to 25,916 of SEQ ID NO:74; nucleotides 26,311 to 26,505 of SEQ ID NO:74; nucleotides 27,318 to 27,526 of SEQ ID NO:74; nucleotides 28,337 to 28,494 of SEQ ID NO:74; nucleotides 28,952 to 29,109 of SEQ ID NO:74; nucleotides 29,165 to 29,322 of SEQ ID NO:74; nucleotides 29,442 to 29,602 of SEQ ID NO:74; nucleotides 30,037 to 30,108 of SEQ ID NO:74; nucleotides 30,558 to 30,687 of SEQ ID NO:74; nucleotides 31,820 to 31,977 of SEQ ID NO:74; nucleotides 32,529 to 32,682 of SEQ ID NO:74; nucleotides 32,728 to 33,005 of SEQ ID NO:74; nucleotides 33,177 to 33,352 of SEQ ID NO:74; nucleotides 33,488 to 33,682 of SEQ ID NO:74; nucleotides 34,466 to 36,779 of SEQ ID NO:74; nucleotides 1 to 538 of SEQ ID NO:75; nucleotides 539 to 792 of SEQ ID NO:75; nucleotides 886 to 1,033 of SEQ ID NO:75; nucleotides 6,308 to 7,001 of SEQ ID NO:75; nucleotides 8,408 to 8,722 of SEQ ID NO:75; nucleotides 9,938 to 10,129 of SEQ ID NO:75; or nucleotides 10,909 to 11,232 of SEQ ID NO:75.

[0038] Compositions of the invention include oligonucleotide pairs. An oligonucleotide pair of the invention consists of a first isolated nucleic acid molecule of the invention and a second isolated nucleic acid molecule of the invention with different nucleotide sequences. An oligonucleotide pair of the invention is suitable for use as a primer pair or primer set in an enzymatic amplification reaction such as, but not limited to, a PCR reaction. In an embodiment, an oligonucleotide pair comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, or a fragment or variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, or a fragment or variant thereof. The first and second nucleic acid molecules of an oligonucleotide pair anneal to opposite strands of a cholestasis related gene such that they allow amplification of a region of a cholestasis related gene bracketed by the primer pair.

[0039] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the ATP8B1 protein gene (SEQ ID NO:71).

[0040] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:30 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 or a variant thereof and a second nucleic acid

molecule having the nucleotide sequence set forth in SEQ ID NO:38 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the ABCB11 protein gene (SEQ ID NO:72).

[0041] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 or a

variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the ABCB4 protein gene (SEQ ID NO:73).

[0042] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66 or a variant thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the JAG1 protein gene (SEQ ID NO:74).

[0043] In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68 or a variant thereof. In an embodiment, an oligonucleotide pair of the invention comprises a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 or a variant thereof and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70 or a variant

thereof. In an embodiment an oligonucleotide pair of the invention allows amplification of a region of the SERPINA-1 protein gene (SEQ ID NO:75).

[0044] Additional oligonucleotide pairs comprising the isolated nucleic acid molecules of the invention are encompassed by the invention.

[0045] By “amplification” is intended an increase in the amount of nucleic acid molecules in a sample. Amplifying DNA increases the amount of acid precipitable nucleic acid molecules. The amount of acid precipitable material increases by 1%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 100%, 150%, 200%, 250%, or more. Methods of quantifying nucleic acid molecules are known in the art and include, but are not limited to, UV absorption spectra, radiolabel incorporation, agarose gel electrophoresis, bisbenzimidazole staining and ethidium bromide staining. See, for example, Ausubel *et al.*, eds. (2003) *Current Protocols in Molecular Biology*, (John Wiley & Sons, New York) and Sambrook *et al.* (2001) *Molecular Cloning: A Laboratory Manual* (3d ed., Cold Spring Harbor Laboratory Press, Plainview, N.Y., herein incorporated by reference.

[0046] Enzymatic amplification is the process of using enzymes to perform amplification. A common type of enzymatic amplification is the polymerase chain reaction (PCR). Known methods of PCR include, but are not limited to, methods using paired primers, nested primers, single specific primers, degenerate primers, gene-specific primers, vector-specific primers, partially-mismatched primers, and the like. Known methods of PCR include, but are not limited to, methods using DNA polymerases from extremophiles, engineered DNA polymerases, and long-range PCR. It is recognized that it is preferable to use high fidelity PCR reaction conditions in the methods of the invention. See also Innis *et al.*, eds. (1990) *PCR Protocols: A Guide to Methods and Applications* (Academic Press, New York); Innis and Gelfand, eds. (1995) *PCR Strategies* (Academic Press, New York); and Innis and Gelfand, eds. (1999) *PCR Methods Manual* (Academic Press, New York). Long range PCR amplification methods include methods such as those described in the TaKaRa LA PCR guide, Takara Shuzo Co., Ltd.

[0047] By “amplified DNA” is intended the product of enzymatic amplification.

[0048] Any method of DNA sequencing known in the art can be used in the methods of the invention. Methods of sequencing DNA are known in the art and are described in Graham & Hill eds. (2001) *DNA Sequencing Protocols* (Humana Press, Totowa NJ), Kieleczawa ed (2004) *DNA Sequencing: Optimizing the Process and Analysis* (Jones & Bartlett Publishers, Ontario), Ausubel *et al.*, eds. (2003) *Current Protocols in Molecular Biology*, (John Wiley & Sons, New York) and Sambrook *et al.* (2001) *Molecular Cloning: A Laboratory Manual* (3d ed., Cold Spring Harbor Laboratory Press, Plainview, N.Y., herein incorporated by reference in their entirety).

[0049] In an embodiment a resequencing microarray is used in the methods of the invention. By “resequencing microarray” or “variation detection array” is intended a microarray of nucleic acid probes arranged on a chip wherein each nucleic acid probe is of a predetermined length and sequence. Regions of a nucleotide sequence of interest are divided into segments of predetermined length and nucleic acid probes based on the sequence of each segment are arranged on a chip. Each nucleic acid probe contains a single query base. For each segment, four nucleic acid probes of identical sequence with the exception of the query base are tiled on the chip. A predetermined nucleotide is inserted at the query base location, and each nucleotide is presented in one of the four nucleic acid probes. Thus, each possible nucleotide sequence is represented. The sequence of each nucleic acid probe is identical to a segment of a nucleotide sequence of interest or differs by one predetermined nucleotide alteration from a segment of a nucleotide sequence of interest. See Warrington *et al.* (2002) *Hum Mutat* 19:402-409 and Cutler *et al.* (2001) *Genome Res* 11:1913-1925, herein incorporated by reference in their entirety.

[0050] A cholestasis related gene resequencing microarray of the invention consists of nucleic acid probes having a nucleotide sequence derived from the nucleotide sequences set forth in SEQ ID NOS:71-75. In particular the nucleic acid probes have a nucleotide sequence derived from a segment of the nucleotide sequence set forth in nucleotides 1 to 483 of SEQ ID NO:71; nucleotides 25,479 to 25,620 of SEQ ID NO:71; nucleotides 27,398 to 27,555 of SEQ ID NO:71; nucleotides 30,753 to 30,895 of SEQ ID NO:71; nucleotides 30,966 to 31,071 of SEQ ID NO:71; nucleotides 34,199 to 34,315 of SEQ ID NO:71; nucleotides 34,378 to 34,492 of SEQ ID NO:71; nucleotides 36,534 to 36,660 of SEQ ID NO:71; nucleotides 36,737 to 36,939 of SEQ

ID NO:71; nucleotides 37,396 to 37,528 of SEQ ID NO:71; nucleotides 40,069 to 40,303 of SEQ ID NO:71; nucleotides 43,559 to 43,811 of SEQ ID NO:71; nucleotides 46,951 to 47,038 of SEQ ID NO:71; nucleotides 47,874 to 48,074 of SEQ ID NO:71; nucleotides 57,044 to 57,276 of SEQ ID NO:71; nucleotides 60,486 to 60,642 of SEQ ID NO:71; nucleotides 62,584 to 62,792 of SEQ ID NO:71; nucleotides 63,526 to 63,681 of SEQ ID NO:71; nucleotides 64,899 to 65,018 of SEQ ID NO:71; nucleotides 69,451 to 69,627 of SEQ ID NO:71; nucleotides 70,604 to 70,936 of SEQ ID NO:71; nucleotides 76,649 to 76,916 of SEQ ID NO:71; nucleotides 77,991 to 78,118 of SEQ ID NO:71; nucleotides 79,337 to 79,626 of SEQ ID NO:71; nucleotides 79,894 to 80,076 of SEQ ID NO:71; nucleotides 81,569 to 81,743 of SEQ ID NO:71; nucleotides 83,354 to 83,756 of SEQ ID NO:71; nucleotides 1 to 401 of SEQ ID NO:72; nucleotides 13,430 to 13,576 of SEQ ID NO:72; nucleotides 14,783 to 14,848 of SEQ ID NO:72; nucleotides 17,228 to 17,323 of SEQ ID NO:72; nucleotides 18,072 to 18,354 of SEQ ID NO:72; nucleotides 34,860 to 34,991 of SEQ ID NO:72; nucleotides 36,100 to 36,277 of SEQ ID NO:72; nucleotides 37,700 to 37,915 of SEQ ID NO:72; nucleotides 40,657 to 40,825 of SEQ ID NO:72; nucleotides 45,298 to 45,516 of SEQ ID NO:72; nucleotides 51,603 to 51,760 of SEQ ID NO:72; nucleotides 54,895 to 55,049 of SEQ ID NO:72; nucleotides 57,742 to 57,911 of SEQ ID NO:72; nucleotides 59,532 to 59,779 of SEQ ID NO:72; nucleotides 61,367 to 61,581 of SEQ ID NO:72; nucleotides 62,031 to 62,276 of SEQ ID NO:72; nucleotides 63,092 to 63,199 of SEQ ID NO:72; nucleotides 67,274 to 67,420 of SEQ ID NO:72; nucleotides 73,454 to 73,662 of SEQ ID NO:72; nucleotides 86,621 to 86,769 of SEQ ID NO:72; nucleotides 86,816 to 87,021 of SEQ ID NO:72; nucleotides 95,149 to 95,396 of SEQ ID NO:72; nucleotides 96,157 to 96,442 of SEQ ID NO:72; nucleotides 99,049 to 99,249 of SEQ ID NO:72; nucleotides 100,720 to 100,961 of SEQ ID NO:72; nucleotides 104,220 to 104,470 of SEQ ID NO:72; nucleotides 106,779 to 106,969 of SEQ ID NO:72; nucleotides 107,760 to 108,687 of SEQ ID NO:72; nucleotides 1 to 1,802 of SEQ ID NO:73; nucleotides 1,803 to 2,186 of SEQ ID NO:73; nucleotides 2,299 to 2,400 of SEQ ID NO:73; nucleotides 3,075 to 3,254 of SEQ ID NO:73; nucleotides 3,611 to 3,760 of SEQ ID NO:73; nucleotides 3,879 to 4,008 of SEQ ID NO:73; nucleotides 6,675 to 6,773 of SEQ ID NO:73; nucleotides 16,442 to 16,636 of SEQ ID NO:73; nucleotides 24,758 to 24,859 of SEQ ID NO:73; nucleotides 26,215 to 26,450 of SEQ ID NO:73; nucleotides 27,556 to 27,771 of SEQ ID NO:73; nucleotides 29,258 to

29,426 of SEQ ID NO:73; nucleotides 32,145 to 32,360 of SEQ ID NO:73; nucleotides 34,375 to 34,532 of SEQ ID NO:73; nucleotides 35,577 to 35,731 of SEQ ID NO:73; nucleotides 35,906 to 36,075 of SEQ ID NO:73; nucleotides 38,948 to 39,195 of SEQ ID NO:73; nucleotides 39,513 to 39,727 of SEQ ID NO:73; nucleotides 47,785 to 47,990 of SEQ ID NO:73; nucleotides 52,430 to 52,644 of SEQ ID NO:73; nucleotides 55,298 to 55,488 of SEQ ID NO:73; nucleotides 57,125 to 57,273 of SEQ ID NO:73; nucleotides 59,275 to 59,396 of SEQ ID NO:73; nucleotides 60,730 to 60,857 of SEQ ID NO:73; nucleotides 61,835 to 62,082 of SEQ ID NO:73; nucleotides 65,633 to 65,777 of SEQ ID NO:73; nucleotides 67,317 to 67,501 of SEQ ID NO:73; nucleotides 69,958 to 70,158 of SEQ ID NO:73; nucleotides 71,116 to 71,357 of SEQ ID NO:73; nucleotides 72,835 to 73,106 of SEQ ID NO:73; nucleotides 76,069 to 76,259 of SEQ ID NO:73; nucleotides 77,048 to 77,349 of SEQ ID NO:73; nucleotides 1 to 1,015 of SEQ ID NO:74; nucleotides 1,415 to 1,764 of SEQ ID NO:74; nucleotides 6,490 to 6,689 of SEQ ID NO:74; nucleotides 8,080 to 8,239 of SEQ ID NO:74; nucleotides 10,407 to 10,502 of SEQ ID NO:74; nucleotides 15,699 to 15,997 of SEQ ID NO:74; nucleotides 17,963 to 18,067 of SEQ ID NO:74; nucleotides 21,823 to 21,997 of SEQ ID NO:74; nucleotides 22,171 to 22,334 of SEQ ID NO:74; nucleotides 22,727 to 22,884 of SEQ ID NO:74; nucleotides 24,061 to 24,218 of SEQ ID NO:74; nucleotides 24,786 to 24,943 of SEQ ID NO:74; nucleotides 25,314 to 25,404 of SEQ ID NO:74; nucleotides 25,699 to 25,916 of SEQ ID NO:74; nucleotides 26,311 to 26,505 of SEQ ID NO:74; nucleotides 27,318 to 27,526 of SEQ ID NO:74; nucleotides 28,337 to 28,494 of SEQ ID NO:74; nucleotides 28,952 to 29,109 of SEQ ID NO:74; nucleotides 29,165 to 29,322 of SEQ ID NO:74; nucleotides 29,442 to 29,602 of SEQ ID NO:74; nucleotides 30,037 to 30,108 of SEQ ID NO:74; nucleotides 30,558 to 30,687 of SEQ ID NO:74; nucleotides 31,820 to 31,977 of SEQ ID NO:74; nucleotides 32,529 to 32,682 of SEQ ID NO:74; nucleotides 32,728 to 33,005 of SEQ ID NO:74; nucleotides 33,177 to 33,352 of SEQ ID NO:74; nucleotides 33,488 to 33,682 of SEQ ID NO:74; nucleotides 34,466 to 36,779 of SEQ ID NO:74; nucleotides 1 to 538 of SEQ ID NO:75; nucleotides 539 to 792 of SEQ ID NO:75; nucleotides 886 to 1,033 of SEQ ID NO:75; nucleotides 6,308 to 7,001 of SEQ ID NO:75; nucleotides 8,408 to 8,722 of SEQ ID NO:75; nucleotides 9,938 to 10,129 of SEQ ID NO:75; or nucleotides 10,909 to 11,232 of SEQ ID NO:75 or differs by one predetermined nucleotide alteration from a segment of the nucleotide sequence set

forth in nucleotides 1 to 483 of SEQ ID NO:71; nucleotides 25,479 to 25,620 of SEQ ID NO:71; nucleotides 27,398 to 27,555 of SEQ ID NO:71; nucleotides 30,753 to 30,895 of SEQ ID NO:71; nucleotides 30,966 to 31,071 of SEQ ID NO:71; nucleotides 34,199 to 34,315 of SEQ ID NO:71; nucleotides 34,378 to 34,492 of SEQ ID NO:71; nucleotides 36,534 to 36,660 of SEQ ID NO:71; nucleotides 36,737 to 36,939 of SEQ ID NO:71; nucleotides 37,396 to 37,528 of SEQ ID NO:71; nucleotides 40,069 to 40,303 of SEQ ID NO:71; nucleotides 43,559 to 43,811 of SEQ ID NO:71; nucleotides 46,951 to 47,038 of SEQ ID NO:71; nucleotides 47,874 to 48,074 of SEQ ID NO:71; nucleotides 57,044 to 57,276 of SEQ ID NO:71; nucleotides 60,486 to 60,642 of SEQ ID NO:71; nucleotides 62,584 to 62,792 of SEQ ID NO:71; nucleotides 63,526 to 63,681 of SEQ ID NO:71; nucleotides 64,899 to 65,018 of SEQ ID NO:71; nucleotides 69,451 to 69,627 of SEQ ID NO:71; nucleotides 70,604 to 70,936 of SEQ ID NO:71; nucleotides 76,649 to 76,916 of SEQ ID NO:71; nucleotides 77,991 to 78,118 of SEQ ID NO:71; nucleotides 79,337 to 79,626 of SEQ ID NO:71; nucleotides 79,894 to 80,076 of SEQ ID NO:71; nucleotides 81,569 to 81,743 of SEQ ID NO:71; nucleotides 83,354 to 83,756 of SEQ ID NO:71; nucleotides 1 to 401 of SEQ ID NO:72; nucleotides 13,430 to 13,576 of SEQ ID NO:72; nucleotides 14,783 to 14,848 of SEQ ID NO:72; nucleotides 17,228 to 17,323 of SEQ ID NO:72; nucleotides 18,072 to 18,354 of SEQ ID NO:72; nucleotides 34,860 to 34,991 of SEQ ID NO:72; nucleotides 36,100 to 36,277 of SEQ ID NO:72; nucleotides 37,700 to 37,915 of SEQ ID NO:72; nucleotides 40,657 to 40,825 of SEQ ID NO:72; nucleotides 45,298 to 45,516 of SEQ ID NO:72; nucleotides 51,603 to 51,760 of SEQ ID NO:72; nucleotides 54,895 to 55,049 of SEQ ID NO:72; nucleotides 57,742 to 57,911 of SEQ ID NO:72; nucleotides 59,532 to 59,779 of SEQ ID NO:72; nucleotides 61,367 to 61,581 of SEQ ID NO:72; nucleotides 62,031 to 62,276 of SEQ ID NO:72; nucleotides 63,092 to 63,199 of SEQ ID NO:72; nucleotides 67,274 to 67,420 of SEQ ID NO:72; nucleotides 73,454 to 73,662 of SEQ ID NO:72; nucleotides 86,621 to 86,769 of SEQ ID NO:72; nucleotides 86,816 to 87,021 of SEQ ID NO:72; nucleotides 95,149 to 95,396 of SEQ ID NO:72; nucleotides 96,157 to 96,442 of SEQ ID NO:72; nucleotides 99,049 to 99,249 of SEQ ID NO:72; nucleotides 100,720 to 100,961 of SEQ ID NO:72; nucleotides 104,220 to 104,470 of SEQ ID NO:72; nucleotides 106,779 to 106,969 of SEQ ID NO:72; nucleotides 107,760 to 108,687 of SEQ ID NO:72; nucleotides 1 to 1,802 of SEQ ID NO:73; nucleotides 1,803 to 2,186 of SEQ ID NO:73; nucleotides

2,299 to 2,400 of SEQ ID NO:73; nucleotides 3,075 to 3,254 of SEQ ID NO:73; nucleotides 3,611 to 3,760 of SEQ ID NO:73; nucleotides 3,879 to 4,008 of SEQ ID NO:73; nucleotides 6,675 to 6,773 of SEQ ID NO:73; nucleotides 16,442 to 16,636 of SEQ ID NO:73; nucleotides 24,758 to 24,859 of SEQ ID NO:73; nucleotides 26,215 to 26,450 of SEQ ID NO:73; nucleotides 27,556 to 27,771 of SEQ ID NO:73; nucleotides 29,258 to 29,426 of SEQ ID NO:73; nucleotides 32,145 to 32,360 of SEQ ID NO:73; nucleotides 34,375 to 34,532 of SEQ ID NO:73; nucleotides 35,577 to 35,731 of SEQ ID NO:73; nucleotides 35,906 to 36,075 of SEQ ID NO:73; nucleotides 38,948 to 39,195 of SEQ ID NO:73; nucleotides 39,513 to 39,727 of SEQ ID NO:73; nucleotides 47,785 to 47,990 of SEQ ID NO:73; nucleotides 52,430 to 52,644 of SEQ ID NO:73; nucleotides 55,298 to 55,488 of SEQ ID NO:73; nucleotides 57,125 to 57,273 of SEQ ID NO:73; nucleotides 59,275 to 59,396 of SEQ ID NO:73; nucleotides 60,730 to 60,857 of SEQ ID NO:73; nucleotides 61,835 to 62,082 of SEQ ID NO:73; nucleotides 65,633 to 65,777 of SEQ ID NO:73; nucleotides 67,317 to 67,501 of SEQ ID NO:73; nucleotides 69,958 to 70,158 of SEQ ID NO:73; nucleotides 71,116 to 71,357 of SEQ ID NO:73; nucleotides 72,835 to 73,106 of SEQ ID NO:73; nucleotides 76,069 to 76,259 of SEQ ID NO:73; nucleotides 77,048 to 77,349 of SEQ ID NO:73; nucleotides 1 to 1,015 of SEQ ID NO:74; nucleotides 1,415 to 1,764 of SEQ ID NO:74; nucleotides 6,490 to 6,689 of SEQ ID NO:74; nucleotides 8,080 to 8,239 of SEQ ID NO:74; nucleotides 10,407 to 10,502 of SEQ ID NO:74; nucleotides 15,699 to 15,997 of SEQ ID NO:74; nucleotides 17,963 to 18,067 of SEQ ID NO:74; nucleotides 21,823 to 21,997 of SEQ ID NO:74; nucleotides 22,171 to 22,334 of SEQ ID NO:74; nucleotides 22,727 to 22,884 of SEQ ID NO:74; nucleotides 24,061 to 24,218 of SEQ ID NO:74; nucleotides 24,786 to 24,943 of SEQ ID NO:74; nucleotides 25,314 to 25,404 of SEQ ID NO:74; nucleotides 25,699 to 25,916 of SEQ ID NO:74; nucleotides 26,311 to 26,505 of SEQ ID NO:74; nucleotides 27,318 to 27,526 of SEQ ID NO:74; nucleotides 28,337 to 28,494 of SEQ ID NO:74; nucleotides 28,952 to 29,109 of SEQ ID NO:74; nucleotides 29,165 to 29,322 of SEQ ID NO:74; nucleotides 29,442 to 29,602 of SEQ ID NO:74; nucleotides 30,037 to 30,108 of SEQ ID NO:74; nucleotides 30,558 to 30,687 of SEQ ID NO:74; nucleotides 31,820 to 31,977 of SEQ ID NO:74; nucleotides 32,529 to 32,682 of SEQ ID NO:74; nucleotides 32,728 to 33,005 of SEQ ID NO:74; nucleotides 33,177 to 33,352 of SEQ ID NO:74; nucleotides 33,488 to 33,682 of SEQ ID NO:74; nucleotides 34,466 to 36,779 of SEQ

ID NO: 74; nucleotides 1 to 538 of SEQ ID NO: 75; nucleotides 539 to 792 of SEQ ID NO: 75; nucleotides 886 to 1,033 of SEQ ID NO: 75; nucleotides 6,308 to 7,001 of SEQ ID NO: 75; nucleotides 8,408 to 8,722 of SEQ ID NO: 75; nucleotides 9,938 to 10,129 of SEQ ID NO: 75; or nucleotides 10,909 to 11,232 of SEQ ID NO: 75.

[0051] Methods of using and analyzing microarrays are known in the art. Hybridization and wash protocols are described extensively in GeneChip® CustomSeq™ Resequencing Array Protocol, (2004) V.2.0, revision 3, Affymetrix. Microarray analysis is discussed extensively in Cutler *et al.* (2001) *Genome Res* 11:1913-1925 and GeneChip® CustomSeq™ Resequencing Array Protocol, (2004) V.2.0, revision 3, Affymetrix, herein incorporated by reference in their entirety.

[0052] In an embodiment, the invention provides kits for performing the methods of the invention. Such kits comprise an isolated nucleic acid molecule of the invention, particularly multiple isolated nucleic acid molecules of the invention, and an oligonucleotide pair of the invention, particularly multiple oligonucleotide pairs of the invention. A kit of the invention may further comprise a cholestasis related gene resequencing microarray. Additionally a kit of the invention may comprise a standard sequence profile or a means of accessing a standard sequence profile.

[0053] By “standard sequence profile” is intended a listing of the consensus nucleotide sequence of at least one nucleotide sequence of interest. A standard sequence profile may contain additional information including but not limited to, a correlation of at least one nucleotide sequence variation with a disease, syndrome, prognosis, or treatment protocol. A standard sequence profile may exist in printed or electronic form, a remotely accessible form, in a database, or in any other means known in the art. In an embodiment a standard sequence profile is a cholestasis related standard sequence profile. For instance, an exemplary cholestasis related standard sequence profile correlates certain nucleotide alterations in ATP8B1 with either PFIC Type I or BRIC Type 1; ABCB11 with either PFIC Type II or BRIC Type II; ABCB4 with PFIC Type III or MDR deficiency; JAG1 with Alagille Syndrome; or SERPINA-1 with alpha1-antitrypsin deficiency.

[0054] By “disease classification”, “disease type”, or “disease subtype” is intended a set of diseases limited by certain shared characteristics, phenotypes, genotypes, or traits. Disease classification for various diseases and disorders are known in the art. Typically cholestasis related syndromes are classified based on the location of cause of the cholestasis, that is, within the liver or outside the liver.

[0055] By “subject” is intended a human, human tissue, or human cells. Suitable subjects include, but are not limited to, humans exhibiting cholestasis, tissue obtained from a human exhibiting cholestasis, cells obtained from a human exhibiting cholestasis, cells cultured from a human exhibiting cholestasis, and healthy humans.

[0056] By “biological sample” is intended a sample collected from a subject including, but not limited to, whole blood, tissue, cells, mucosa, fluid, scrapings, hairs, cell lysates, and secretions. Biological samples such as blood samples can be obtained by any method known to one skilled in the art. Further, biological samples can be enriched, purified, isolated, or stabilized by any method known to one skilled in the art.

[0057] The invention encompasses isolated or substantially purified nucleic acid or protein compositions.

[0058] By “disease progression” or “disease course” is intended the physiological events related to a disease or disorder that occur during the period after the initial presentation in a subject or patient exhibiting a disease or disorder. With respect to cholestasis, the duration and degree of the cholestasis are used to describe the disease course or progression. For instance, benign recurrent intrahepatic cholestasis presents and regresses, typically without the development of cirrhosis. Progressive familial intrahepatic cholestasis presents early in infancy and typically continues with the development of cirrhosis and eventual lethality. Identifying the disease course or disease progression that an untreated patient would experience allows practitioners to identify those patients who would benefit most from aggressive early intervention.

[0059] The following examples are offered by way of illustration and not limitation.

EXPERIMENTAL

Example 1. Enzymatic Amplification of Multiple Regions of CholestasisRelated Genes

[0060] Genomic DNA was purified from whole blood samples obtained from subjects exhibiting jaundice. An enzymatic amplification master mix was prepared following the polymerase manufacturer's standard protocol. The master mix was aliquoted into thermocycler tubes. The isolated nucleic acid molecules of the invention were diluted and added in pairs to each tube. The purified genomic DNA was diluted and added into each tube. The reaction mixtures were placed in a thermocycler and subjected to incubations suitable for long-range PCR. Aliquots of each reaction mixture were loaded on agarose gels and subjected to electrophoresis. Typical results obtained with oligonucleotide pairs specific to ATP8B1 are shown in Figure 1, Panel C; ABCB11 in Figure 2, Panel C; ABCB4 in Figure 3, Panel C; JAG1 in Figure 4, Panel C; and SERPINA-1 in Figure 5, Panel C.

Example 2. Resequencing Microarray Analysis

[0061] Amplified DNA obtained as described above was utilized in resequencing microarray analysis with a cholestasis related gene resequencing microarray of the invention. Microarray analysis was performed according to the manufacturer's recommended protocol.

[0062] All publications, patents, and patent applications mentioned in the specification are indicative of the level of those skilled in the art to which this invention pertains. All publications, patents, and patent applications are herein incorporated by reference to the same extent as if each individual publication or patent application was specifically and individually incorporated by reference.

[0063] Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it will be obvious that certain changes and modifications may be practiced within the scope of the appended claims.

[0064] THAT WHICH IS CLAIMED:

1. An isolated nucleic acid molecule consisting of a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence set forth in SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70;

(b) a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70; and

(c) a nucleotide sequence that hybridizes under stringent conditions to a complement of SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70.

2. A library of isolated nucleic acid molecules comprising a first isolated nucleic acid molecule and at least a second isolated nucleic acid molecule wherein the nucleotide sequences of said nucleic acid molecules are selected from the group consisting of:

(a) the nucleotide sequence set forth in SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70;

(b) a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70; and

(c) a nucleotide sequence that hybridizes under stringent conditions to a complement of SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,

42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70.

3. The library of claim 2, consisting of 3-10, 11-20, 21-30, 31-40, 41-50, 51-60, or 61-70 isolated nucleic acid molecules having a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence set forth in SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70;

(b) a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70; and

(c) a nucleotide sequence that hybridizes under stringent conditions to a complement of SEQ ID NOS:1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, and 70.

4. An oligonucleotide pair library comprising at least one oligonucleotide pair, said oligonucleotide pair comprising a first nucleic acid molecule and a second nucleic acid molecule wherein said oligonucleotide pair is selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2;

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4;

(c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6;

(d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8;

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16;

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18;

(j) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20;

(k) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22;

(l) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24;

(m) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26;

(n) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28;

(o) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:30;

(p) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32;

(q) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34;

(r) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36;

(s) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:38;

(t) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40;

(u) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42;

(v) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44;

(w) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46;

(x) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48;

(y) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50;

(z) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52;

(aa) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54;

(ab) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56;

(ac) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58;

(ad) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60;

(ae) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62;

(af) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64;

(ag) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66;

(ah) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68;

(ai) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70;

(aj) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID

NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69;

(ak) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70;

(al) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69; and

(am) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70.

5. The oligonucleotide pair library of claim 4, wherein said first and second nucleic acid molecules of said oligonucleotide pair allow amplification of a region of the ATP8B1 protein gene (SEQ ID NO:71) and wherein said oligonucleotide pair is selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2;

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4;

(c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6;

(d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8;

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16; and

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18.

6. The oligonucleotide pair library of claim 4, wherein said first and second nucleic acid molecules of said oligonucleotide pair allow amplification of a region of the ABCB11 protein gene (SEQ ID NO:72) and wherein said oligonucleotide pair is selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20;

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22;

(c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24;

(d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26;

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:30;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34;

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36; and

(j) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:38.

7. The oligonucleotide pair library of claim 4, wherein said first and second nucleic acid molecules of said oligonucleotide pair allow amplification of a region of the ABCB4 protein gene (SEQ ID NO:73) wherein said oligonucleotide pair is selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40;

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42;

(c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44;

(d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46;

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54; and

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56.

8. The oligonucleotide pair library of claim 4, wherein said first and second nucleic acid molecules of said oligonucleotide pair allow amplification of a region of the JAG1 protein gene (SEQ ID NO:74) and wherein said oligonucleotide pair is selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58;

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60;

(c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62;

(d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64; and

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66.

9. The oligonucleotide pair library of claim 4, wherein said first and second nucleic acid molecules of said oligonucleotide pair allow amplification of a region of the SERPINA1 protein gene (SEQ ID NO:75) and wherein said oligonucleotide pair is selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68; and

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70.

10. A resequencing microarray comprising of nucleic acid probes having a nucleotide sequence derived from the nucleotide sequences set forth in SEQ ID NOS:71-75.

11. The resequencing microarray of claim 10 comprising of nucleic acid probes having a nucleotide sequence selected from the group consisting of:

(a) a segment of a nucleotide sequence set forth in nucleotides 1 to 483 of SEQ ID NO:71; nucleotides 25,479 to 25,620 of SEQ ID NO:71; nucleotides 27,398 to 27,555 of SEQ ID NO:71; nucleotides 30,753 to 30,895 of SEQ ID NO:71; nucleotides 30,966 to 31,071 of SEQ ID NO:71; nucleotides 34,199 to 34,315 of SEQ ID NO:71; nucleotides 34,378 to 34,492 of SEQ ID NO:71; nucleotides 36,534 to 36,660 of SEQ ID NO:71; nucleotides 36,737 to 36,939 of SEQ ID NO:71; nucleotides 37,396 to 37,528 of SEQ ID NO:71; nucleotides 40,069 to 40,303 of SEQ ID NO:71; nucleotides 43,559 to 43,811 of SEQ ID NO:71; nucleotides 46,951 to 47,038 of SEQ ID NO:71; nucleotides 47,874 to 48,074 of SEQ ID NO:71; nucleotides 57,044 to 57,276 of SEQ ID NO:71; nucleotides 60,486 to 60,642 of SEQ ID NO:71; nucleotides 62,584 to 62,792 of SEQ ID NO:71; nucleotides 63,526 to 63,681 of SEQ ID NO:71; nucleotides 64,899 to 65,018 of SEQ ID NO:71; nucleotides 69,451 to 69,627 of SEQ ID NO:71; nucleotides 70,604 to 70,936 of SEQ ID NO:71; nucleotides 76,649 to 76,916 of SEQ ID NO:71; nucleotides 77,991 to 78,118 of SEQ ID NO:71; nucleotides 79,337 to 79,626 of SEQ ID NO:71; nucleotides 79,894 to 80,076 of SEQ ID NO:71; nucleotides 81,569 to 81,743 of SEQ ID NO:71; nucleotides 83,354 to 83,756 of SEQ ID NO:71; nucleotides 1 to 401 of SEQ ID NO:72; nucleotides 13,430 to 13,576 of SEQ ID NO:72; nucleotides 14,783 to 14,848 of SEQ ID NO:72; nucleotides 17,228 to 17,323 of SEQ ID NO:72; nucleotides 18,072 to 18,354 of SEQ ID NO:72; nucleotides 34,860 to 34,991 of SEQ ID NO:72; nucleotides 36,100 to 36,277 of SEQ ID NO:72; nucleotides 37,700 to 37,915 of SEQ ID NO:72; nucleotides 40,657 to 40,825 of SEQ ID NO:72; nucleotides 45,298 to 45,516 of SEQ ID NO:72; nucleotides 51,603 to 51,760 of SEQ ID NO:72; nucleotides 54,895 to 55,049 of SEQ ID NO:72; nucleotides 57,742 to 57,911 of SEQ ID NO:72; nucleotides 59,532 to 59,779 of SEQ ID NO:72; nucleotides 61,367 to 61,581 of SEQ ID NO:72; nucleotides 62,031 to 62,276 of SEQ ID NO:72; nucleotides 63,092 to 63,199 of SEQ ID NO:72; nucleotides 67,274 to 67,420 of SEQ ID NO:72; nucleotides 73,454 to 73,662 of SEQ ID NO:72; nucleotides 86,621 to 86,769 of SEQ ID NO:72; nucleotides 86,816 to 87,021 of SEQ ID NO:72; nucleotides 95,149 to 95,396 of SEQ ID NO:72; nucleotides 96,157 to 96,442 of SEQ ID NO:72; nucleotides 99,049 to 99,249 of SEQ ID NO:72;

nucleotides 100,720 to 100,961 of SEQ ID NO:72; nucleotides 104,220 to 104,470 of SEQ ID NO:72; nucleotides 106,779 to 106,969 of SEQ ID NO:72; nucleotides 107,760 to 108,687 of SEQ ID NO:72; nucleotides 1 to 1,802 of SEQ ID NO:73; nucleotides 1,803 to 2,186 of SEQ ID NO:73; nucleotides 2,299 to 2,400 of SEQ ID NO:73; nucleotides 3,075 to 3,254 of SEQ ID NO:73; nucleotides 3,611 to 3,760 of SEQ ID NO:73; nucleotides 3,879 to 4,008 of SEQ ID NO:73; nucleotides 6,675 to 6,773 of SEQ ID NO:73; nucleotides 16,442 to 16,636 of SEQ ID NO:73; nucleotides 24,758 to 24,859 of SEQ ID NO:73; nucleotides 26,215 to 26,450 of SEQ ID NO:73; nucleotides 27,556 to 27,771 of SEQ ID NO:73; nucleotides 29,258 to 29,426 of SEQ ID NO:73; nucleotides 32,145 to 32,360 of SEQ ID NO:73; nucleotides 34,375 to 34,532 of SEQ ID NO:73; nucleotides 35,577 to 35,731 of SEQ ID NO:73; nucleotides 35,906 to 36,075 of SEQ ID NO:73; nucleotides 38,948 to 39,195 of SEQ ID NO:73; nucleotides 39,513 to 39,727 of SEQ ID NO:73; nucleotides 47,785 to 47,990 of SEQ ID NO:73; nucleotides 52,430 to 52,644 of SEQ ID NO:73; nucleotides 55,298 to 55,488 of SEQ ID NO:73; nucleotides 57,125 to 57,273 of SEQ ID NO:73; nucleotides 59,275 to 59,396 of SEQ ID NO:73; nucleotides 60,730 to 60,857 of SEQ ID NO:73; nucleotides 61,835 to 62,082 of SEQ ID NO:73; nucleotides 65,633 to 65,777 of SEQ ID NO:73; nucleotides 67,317 to 67,501 of SEQ ID NO:73; nucleotides 69,958 to 70,158 of SEQ ID NO:73; nucleotides 71,116 to 71,357 of SEQ ID NO:73; nucleotides 72,835 to 73,106 of SEQ ID NO:73; nucleotides 76,069 to 76,259 of SEQ ID NO:73; nucleotides 77,048 to 77,349 of SEQ ID NO:73; nucleotides 1 to 1,015 of SEQ ID NO:74; nucleotides 1,415 to 1,764 of SEQ ID NO:74; nucleotides 6,490 to 6,689 of SEQ ID NO:74; nucleotides 8,080 to 8,239 of SEQ ID NO:74; nucleotides 10,407 to 10,502 of SEQ ID NO:74; nucleotides 15,699 to 15,997 of SEQ ID NO:74; nucleotides 17,963 to 18,067 of SEQ ID NO:74; nucleotides 21,823 to 21,997 of SEQ ID NO:74; nucleotides 22,171 to 22,334 of SEQ ID NO:74; nucleotides 22,727 to 22,884 of SEQ ID NO:74; nucleotides 24,061 to 24,218 of SEQ ID NO:74; nucleotides 24,786 to 24,943 of SEQ ID NO:74; nucleotides 25,314 to 25,404 of SEQ ID NO:74; nucleotides 25,699 to 25,916 of SEQ ID NO:74; nucleotides 26,311 to 26,505 of SEQ ID NO:74; nucleotides 27,318 to 27,526 of SEQ ID NO:74; nucleotides 28,337 to 28,494 of SEQ ID NO:74; nucleotides 28,952 to 29,109 of SEQ ID NO:74; nucleotides 29,165 to 29,322 of SEQ ID NO:74; nucleotides 29,442 to 29,602 of SEQ ID NO:74; nucleotides 30,037 to 30,108 of SEQ ID NO:74; nucleotides 30,558 to 30,687 of SEQ ID NO:74;

nucleotides 31,820 to 31,977 of SEQ ID NO:74; nucleotides 32,529 to 32,682 of SEQ ID NO:74; nucleotides 32,728 to 33,005 of SEQ ID NO:74; nucleotides 33,177 to 33,352 of SEQ ID NO:74; nucleotides 33,488 to 33,682 of SEQ ID NO:74; nucleotides 34,466 to 36,779 of SEQ ID NO:74; nucleotides 1 to 538 of SEQ ID NO:75; nucleotides 539 to 792 of SEQ ID NO:75; nucleotides 886 to 1,033 of SEQ ID NO:75; nucleotides 6,308 to 7,001 of SEQ ID NO:75; nucleotides 8,408 to 8,722 of SEQ ID NO:75; nucleotides 9,938 to 10,129 of SEQ ID NO:75; or nucleotides 10,909 to 11,232 of SEQ ID NO:75; and

(b) a segment that differs by one nucleotide alteration from a segment of (a).

12. A method of determining the nucleotide sequence of a region of a cholestasis related gene of a human subject comprising the steps of:

- (a) obtaining a biological sample from said human subject;
- (b) providing an oligonucleotide pair of the invention;
- (c) performing enzymatic amplification of a region of a cholestasis related gene;
- (d) providing amplified DNA having the nucleotide sequence of a region a cholestasis related gene; and
- (e) determining the nucleotide sequence of a region of the amplified DNA.

13. The method of claim 12, wherein the oligonucleotide pair of the invention is selected from the group consisting of:

- (a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2;
- (b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4;
- (c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6;
- (d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8;

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16;

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18;

(j) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20;

(k) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22;

(l) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24;

(m) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26;

(n) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28;

(o) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:30;

(p) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32;

(q) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34;

(r) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36;

(s) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:38;

(t) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40;

(u) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42;

(v) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44;

(w) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46;

(x) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48;

(y) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50;

(z) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52;

(aa) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54;

(ab) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56;

(ac) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58;

(ad) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60;

(ae) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62;

(af) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64;

(ag) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66;

(ah) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68;

(ai) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70;

(aj) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID

NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69;

(ak) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70;

(al) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69; and

(am) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70.

14. The method of claim 12, comprising the step of providing a cholestasis related gene resequencing microarray.

15. The method of claim 12, wherein the nucleotide sequence of multiple amplified regions is determined.

16. The method of claim 12, wherein the nucleotide sequence of a region of at least one, two, three, four or five cholestasis related genes is compared with a standard sequence profile.

17. The method of claim 12, wherein the cholestasis related gene is selected from the group consisting of ATP8B1 (SEQ ID NO:71); ABCB4 (SEQ ID NO:73); ABCB11 (SEQ ID NO:72); JAG1 (SEQ ID NO:74); and SERPINA-1 (SEQ ID NO:75).

18. A kit comprising a cholestasis related gene resequencing microarray and at least one oligonucleotide pair selected from the group consisting of:

(a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2;

(b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4;

(c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6;

(d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8;

(e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16;

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18;

(j) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20;

(k) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22;

(l) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24;

(m) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26;

(n) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28;

(o) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:30;

(p) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32;

(q) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34;

(r) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36;

(s) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:38;

(t) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40;

(u) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42;

(v) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44;

(w) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46;

(x) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48;

(y) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50;

(z) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52;

(aa) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54;

(ab) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56;

(ac) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58;

(ad) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60;

(ae) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62;

(af) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64;

(ag) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66;

(ah) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68;

(ai) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70;

(aj) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69;

(ak) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID

NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70;

(al) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69; and

(am) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70.

19. A method of diagnosing a cholestasis related syndrome comprising the steps of:

- (a) obtaining a biological sample from a human subject exhibiting cholestasis;
- (b) performing enzymatic amplification of a region of a cholestasis related gene, wherein said cholestasis related gene is selected from the group consisting of: ATP8B1 (SEQ ID NO:71); ABCB4 (SEQ ID NO:73); ABCB11 (SEQ ID NO:72); JAG1 (SEQ ID NO:74); and SERPIN-1 (SEQ ID NO:75);

- (c) providing amplified DNA having the nucleotide sequence of a region of a cholestasis related gene;
- (d) determining the nucleotide sequence of a region of the amplified DNA, and
- (e) comparing the nucleotide sequence of the amplified DNA with a standard sequence profile.

20. The method of claim 19 comprising the step of providing a cholestasis related gene resequencing microarray.

21. The method of claim 19, wherein said cholestasis related syndrome is selected from the group consisting of cholestasis, neonatal cholestasis, progressive familial intrahepatic cholestasis, benign recurrent intrahepatic cholestasis, alpha-1 anti-trypsin deficiency, Alagille syndrome, intrahepatic cholestasis of pregnancy, primary sclerosing cholangitis, biliary atresia, cholelithiasis, cirrhosis of the liver, and septicemia.

22. The method of claim 19, comprising the step of providing at least one oligonucleotide pair selected from the group consisting of:

- (a) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:1 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:2;
- (b) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:3 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:4;
- (c) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:5 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:6;
- (d) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:7 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:8;
- (e) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:9 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:10;

(f) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:11 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:12;

(g) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:13 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:14;

(h) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:15 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:16;

(i) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:17 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:18;

(j) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:19 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:20;

(k) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:21 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:22;

(l) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:23 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:24;

(m) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:25 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:26;

(n) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:27 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:28;

(o) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:29 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:30;

(p) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:31 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:32;

(q) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:33 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:34;

(r) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:35 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:36;

(s) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:37 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:38;

(t) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:39 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:40;

(u) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:41 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:42;

(v) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:43 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:44;

(w) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:45 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:46;

(x) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:47 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:48;

(y) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:49 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:50;

(z) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:51 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:52;

(aa) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:53 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:54;

(ab) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:55 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:56;

(ac) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:57 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:58;

(ad) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:59 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:60;

(ae) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:61 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:62;

(af) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:63 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:64;

(ag) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:65 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:66;

(ah) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:67 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:68;

(ai) the oligonucleotide pair consisting of a first nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:69 and a second nucleic acid molecule having the nucleotide sequence set forth in SEQ ID NO:70;

(aj) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69;

(ak) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that differs by one nucleotide alteration from that set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70;

(al) an oligonucleotide pair comprising a first nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:19, SEQ ID NO:21, SEQ ID NO:23, SEQ ID NO:25, SEQ ID NO:27, SEQ ID NO:29, SEQ ID NO:31, SEQ ID NO:33, SEQ ID NO:35, SEQ ID NO:37, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:43, SEQ ID NO:45, SEQ ID NO:47, SEQ ID NO:49, SEQ ID NO:51, SEQ ID NO:53, SEQ ID NO:55, SEQ ID NO:57, SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:63, SEQ ID NO:65, SEQ ID NO:67, or SEQ ID NO:69; and

(am) an oligonucleotide pair comprising a second nucleic acid molecule having a nucleotide sequence that hybridizes under stringent conditions to a complement of the nucleotide sequence set forth in SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, SEQ ID NO:16, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:24, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:30, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:36, SEQ ID NO:38, SEQ ID NO:40, SEQ ID NO:42, SEQ ID NO:44, SEQ ID NO:46, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:52, SEQ ID NO:54, SEQ ID NO:56, SEQ ID NO:58, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO:64, SEQ ID NO:66, SEQ ID NO:68, or SEQ ID NO:70.

23. The method of claim 19, wherein enzymatic amplification of a region of multiple cholestasis related genes occurs.

24. The method of claim 19, wherein the nucleotide sequences of multiple amplified DNA are determined.

25. A method of determining cholestasis classification in a subject exhibiting cholestasis comprising:

- (a) obtaining a biological sample from said subject;
 - (b) performing enzymatic amplification of a region of a cholestasis related gene, wherein said cholestasis related gene is selected from the group consisting of: ATP8B1 (SEQ ID NO:71), ABCB4 (SEQ ID NO:73), ABCB11 (SEQ ID NO:72), JAG1 (SEQ ID NO:74), and SERPINA-1 (SEQ ID NO:75);
 - (c) providing amplified DNA having the nucleotide sequence of a region of a cholestasis related gene;
 - (d) determining the nucleotide sequence of a region of the amplified DNA;
- and
- (e) comparing the nucleotide sequence of the region with a standard sequence profile.

26. The method of claim 25, wherein the step of determining the nucleotide sequence of a region of a cholestasis related gene further comprises the step of providing a cholestasis related gene resequencing microarray.

27. A method of predicting the prognosis for a subject exhibiting cholestasis comprising:

- (a) obtaining a biological sample from said subject;
- (b) performing enzymatic amplification of a region of a cholestasis related gene;
- (c) providing amplified DNA having the nucleotide sequence of a region a cholestasis related gene;
- (d) determining the nucleotide sequence of a region of a cholestasis related gene of said human subject, and
- (e) comparing the nucleotide sequence of the region with a standard sequence profile.

28. The method of claim 27, wherein the step of determining the nucleotide sequence of a region of a cholestasis related gene further comprises the step of providing a cholestasis related gene resequencing microarray.

1 / 5

AMPLICON	ATP8B1	Regions	TARGET Length	Amplicon Length	Forward Primer	Reverse Primer
8B1#1	C20	Promoter/Exon 1	483	1601	B1_3389	B1_4989
8B1#2	C1	Exon 2-5	5593	7038	8B1_E2-5_L	8B1_E2-5_R
8B1#3	C2	Exon 6-10	3330	5712	B1_32900	B1_38611
8B1#4	C3	Exon 11-14	8006	8942	8B1_E11-14_L	8B1_E11-14_R
8B1#5	C19	Exon 15	277	1515	B1_60572f	B1_62086r
8B1#6	C30	Exon 16-17	2307	3289	B1_64486	B1_67774
8B1#7	C27	Exon 18-19	1493	2338	B1_67745f	B1_70082r
8B1#8	C23	Exon 20-21	1486	2926	B1_72527f	B1_75452r
8B1#9	C4	Exon 22-27	6974	7946	B1_80366f	B1_88311r

FIG. 1A

			SEQ ID NO.
1	B1_3389	CTAGGGAGTGTTCCTGGGAAGTCAGTAAAC	1
	B1_4989	GTCAGATATGCTCTCCAGCCCTTCTTACT	2
2	8B1_E2-5_L	CTGAGAGCTACAAGGGAGAGATCTGTTCTAGG	3
	8B1_E2-5_R	TACCTACCTACACTGGTAAAGAGGAGCTCTGG	4
3	B1_32900	CCAGAGCTCCTCTTTACCAGTGTAGGTAGGTA	5
	B1_38611	GGAGGCTTGCTTCTAAGAGAACTGCCTCTATG	6
4	8B1_E11-14_L	GTAATCCCAGCTACTCAGGAGGCTGAAGCATA	7
	8B1_E11-14_R	GAAGTGAGGGAATGAAGTGAAGGCAGACTACG	8
5	B1_60572f	CTACATGGGAAGATGAGGTAGGAGGATCAC	9
	B1_62086r	AGATACTGTGGCTACCCCTTTGAGTAGGGAAC	10
6	B1_64486	TAGCTGGGTGTGGTAACTCACATCTGTAATC	11
	B1_67774	CTAATTATACATCCTGGTTGCTGCTCTCCTG	12
7	B1_67745f	AGGAGAGCAGCAACCAGGATGTATAATTAGC	13
	B1_70082r	CCCACCTAGACTAGATTACAGGGGACCTACAT	14
8	B1_72527f	GGTGGAAGAATAGCTTGAACCTAGGAGGTG	15
	B1_75452r	CAGAAGCCCTGTCAGTGATACTCTTTCCTC	16
9	B1_80366f	AGGTAGCTGGAAAGTAGATATGAGCTCTGCTG	17
	B1_88311r	CTGCTTCAGCTTCTCAAATAGGTGGGATTAC	18

FIG. 1B

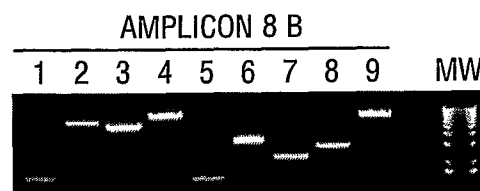


FIG. 1C

2 / 5

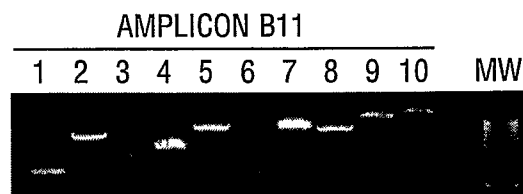
FIG. 2A

AMPLICON	ABCB11	REGIONS	TARGET LENGTH	AMPLICON LENGTH	FORWARD PRIMER	REVERSE PRIMER
B11_#1	C21	PROMOTE/EXON 1	401	2453	B11_2914	B11_5366r
B11_#2	C5	EXON 2-5	4925	6527	B11_17390	B11_23916
B11_#3	F35	EXON 6-7	1418	3450	B11_38021	B11_41470
B11_#4	F36	EXON 8-9	3126	4158	B11_41440	B11_45597
B11_#5	C6	EXON 10-11	6463	8837	B11_48005	B11_56841
B11_#6	F37	EXON 12	155	2101	B11_58038	B11_60138
B11_#7	F20	EXON 13-17	5458	7940	B11_61931	B11_69870
B11_#8	C7	EXON 18-19	6389	7953	B11_71757	B11_79709
B11_#9	C32	EXON 20-23	9822	13583	B11_88489	B11_102071
B11_#10	C33	EXON 24-28	9640	14808	B11_102042	B11_116849

FIG. 2B

			SEQ ID NO.
1	B11_2914	CTCTCTCTCACACAGCATACGTACACACACTC	19
	B11_5366r	CACCCATGTACACCACTCTCTCTCTCTCTAAG	20
2	B11_17390	CTGTGCTCTGCTTACTCTTCGGTACTTCTCTG	21
	B11_23916	GTGACTGTGTCTGTGTGAGTTCTGGCTACTTC	22
3	B11_38021	CACTGCTCTTCCCAGCCTCTGTAACTACT	23
	B11_41470	CTCAAGGTCACAGTAAGGAGCAGAGTAAGTGC	24
4	B11_41440	CACCTACTCTGCTCCTTACTGTGACCTTGAGC	25
	B11_45597	GCACAACTGAGAGACTCAGGGTACTATGC	26
5	B11_48005	AGAGAGCAGAACAGTGTTACCAGGGACTT	27
	B11_56841	GTGCATACTTCTTTACTGCCTGTCCTCTCC	28
6	B11_58038	ATAGTCCCAGCTAGTCAGGAGGCTGATATG	29
	B11_60138	CTCAGTGTCTTCCACTTTCTGCAGTCTCTG	30
7	B11_61931	AAGACCTACTAGCCAGCATTACGCCTCTAC	31
	B11_69870	GCTAGGCAGGTTTACCTCTCTCATCCACTAGA	32
8	B11_71757	CTCTTTCTCCCTCCCTGACTACACTCTGAATC	33
	B11_79709	GTGATGGGATTATCTAGTCTCCCCTCTCTCTC	34
9	B11_88489	TTAGAGACTTAAGGGCTGCAGGACCAGAGTAG	35
	B11_102071	GGAGTGGGAGAGAAGTGCTGAAAGAGATAC	36
10	B11_102042	GTATCTCTTCAGCACTTCTCTCCCACTCC	37
	B11_116849	ATCTAGCTGACTACTTCCTCTGGGTACAGCAC	38

FIG. 2C



3 / 5

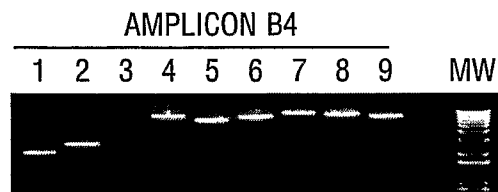
FIG. 3A

AMPLICON	ABCB4	REGIONS	TARGET LENGTH	AMPLICON LENGTH	FORWARD PRIMER	REVERSE PRIMER
B4#1	C24	PRO-A1	1780	2231	B4_2070	B4_4300
B4#2	C28	EXON A2 TO E2	2240	2769	B4_5468f	B4_8236r
B4#3	C29	EXON 3	99	1067	B4_9789	B4_10855
B4#4	C8	EXON 4-5	8418	9685	B4_16965f	B4_26649b
B4#5	C9	EXON 6-9	6146	7248	B4_29028f	B4_36275r
B4#6	C10	EXON 10-14	5353	8780	B4_33842f	B4_42621r
B4#7	C31	EXON 15-18	9489	11342	B4_47444f	B4_58785b
B4#8	C11	EXON 19-23	8227	9952	B4_60112f	B4_70063b
B4#9	C12	EXON 24-28	7387	8741	B4_70243f	B4_78983b

FIG. 3B

			SEQ ID NO.
1	B4_2070 B4_4300	ACCTTAGCCCAGGTCCTTGCACATAGTAAG CACAACCCTCTAGCCCTCTCTCTTTATCAG	39 40
2	B4_5468f B4_8236r	CTCAGACAGACAGACAGGCAAATACACCTC GGAGGGGTAAGACAAGGAGGAAGAGACATAAC	41 42
3	B4_9789 B4_10855	GGGAGTAGGGATGTGGTCAGAGAGGAAATA CATAACTCACTGCAGCCTCAGACTCCTAAGAC	43 44
4	B4_16965f B4_26649b	TCCCCTCTGTAGGTAGTACTGTGTCCAAGATT AGACACCTTTCAGGCCTTTTAGCATACAGAC	45 46
5	B4_29028f B4_36275r	CTAAAAGGCCTGAAAGGTGTCTATCTGGAAG GTATATACTAGAAAGTCAGCTCTGCCCACTGGA	47 48
6	B4_33842f B4_42621r	GTCCAGTGGGCAGAGCTGACTTTCTAGTAT AACCTAGACTCCAGGGCTGAATAGGACTCT	49 50
7	B4_47444f B4_58785b	AGAGAGCTGTGTTCTAGCCTCTCTCTTTCC GAAGTCACACTTCCCCCTGATAAGGAGTCTAC	51 52
8	B4_60112f B4_70063b	CACCTGTGTCAGAATACTAGCAACTGTTACCC TTTACCCATCTCTACCTTCTATCCCCCTACTC	53 54
9	B4_70243f B4_78983b	CCTAGAAGACAGCTTTAGGCAGTACAGGGAAG GTCTACCCAACCCATTTCAGGACCATAAGAC	55 56

FIG. 3C



4 / 5

AMPLICON	JAG1	REGIONS	TARGET LENGTH	AMPLICON LENGTH	FORWARD PRIMER	REVERSE PRIMER
JAG1#1	C26	PROMOTER/EXON 1-2	1832	2693	Jag_3779	Jag_6471
JAG1#2	C25	C1-C2	1793	2980	Jag_10988	Jag_13967
JAG1#3	C13	EXON 3-5	7661	8368	Jag_14531f	Jag_22898b
JAG1#4	C14	EXON 6-15	6672	7431	Jag26030f	Jag33460b
JAG1#5	C15	EXON 16-26	7828	8658	Jag33005f	Jag41662b

FIG. 4A

			SEQ ID NO.
1	Jag_3779 Jag_6471	CTGCAGGACATACCTACTATTAGGGCCAAAAC ACTACCCAGCCGAGATCTAACTATAGTGTCC	57 58
2	Jag_10988 Jag_13967	AGTCAAACATGCAGAGTCCTCTACCAGCTC AGGTGGGGTAGACAAGGAACATGAACTAGG	59 60
3	Jag_14531f Jag_22898b	CCCCTCGGTACAAATACCTGGTTAGGTTAG CCATCTAGCCCATCAGCACTATAAGGGAAG	61 62
4	Jag26030f Jag33460b	CACCGAGAGAGTCCTTTCTCTATAGTCTGTC GAGAGCCAAGCCTTTCTACTGCTTACATC	63 64
5	Jag33005f Jag41662b	CTACTGTGAAACCAAGTGAGTCTGCCACTCT ACTCTGGAACCTCACAGAAGACCAGAACAC	65 66

FIG. 4B

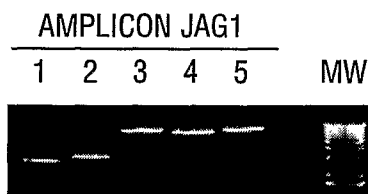


FIG. 4C

5 / 5

AMPLICON	SERPINA1	Regions	TARGET Length	Amplicon Length	Forward Primer	Reverse Primer
A1#1	C22	Promoter/Exon 1-3	2435	3367	A1_4194f	A1_7560b
A1#2	C16	Exon 4-7	4881	6001	A1_12102f	A1_18102b

FIG. 5A

			SEQ ID NO.
1	A1_4194f	CCTTACTCATGACCAGCTCACAGGATCTTC	67
	A1_7560b	CAGTAGGAGAGGTGGTGAGGCTTATAGGAGAC	68
2	A1_12102f	GGATTCTGGTTCTGCTACTTCCTCAGTGAC	69
	A1_18102b	GACTAGGGAGGAGAAGGGATATAGGGTAATGG	70

FIG. 5B

AMPLICON A1		
1	2	MW
		

FIG. 5C

SEQUENCE LISTING

<110> Children's Hospital Medical Center
Bezerra, Jorge

<120> Classification and Diagnosis of the
Molecular Basis of Cholestasis

<130> CHM08 GN021W

<150> 60/703,703

<151> 2005-07-29

<160> 75

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 1

ctagggagtg ttcctgggaa gtcagtaaac

30

<210> 2

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 2

gtcagatatg ctctcccagc ccttcttact

30

<210> 3

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 3

ctgagagcta caagggagag atctgttcta gg

32

<210> 4

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 4

tacctaccta cactggtaaa gaggagctct gg 32

<210> 5
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 5
 ccagagctcc tctttaccag tgtaggtagg ta 32

<210> 6
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 6
 ggaggcttgc ttctaagaga actgcctcta tg 32

<210> 7
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 7
 gtaatccag ctactcagga ggctgaagca ta 32

<210> 8
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 8
 gaagtgagg aatgaagtga aggcagacta cg 32

<210> 9
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 9
 ctacatggga agatgaggta ggaggatcac 30

<210> 10
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 10

agatactgtg gctacccctt tgagtaggga ac

32

<210> 11

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 11

tagctgggtg tggtaactca catctgtaat c

31

<210> 12

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 12

ctaattatac atcctgggtg ctgctctcct g

31

<210> 13

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 13

aggagagcag caaccaggat gtataattag c

31

<210> 14

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 14

cccacctaga ctagattaca ggggacctac at

32

<210> 15

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ATP8B1

<400> 15

ggtggaagaa tagcttgaac ctaggaggtg

30

<210> 16
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

 <400> 16
 cagaagccct gtcagtgata ctctttcctc 30

 <210> 17
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

 <400> 17
 aggtagctgg aaagtagata tgagctctgc tg 32

 <210> 18
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ATP8B1

 <400> 18
 ctgcttcagc ttctcaaata ggtgggatta c 31

 <210> 19
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB11

 <400> 19
 ctctctctca cacagcatatc gtacacacac tc 32

 <210> 20
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB11

 <400> 20
 caccatgta caccactctc tctctctcta ag 32

 <210> 21
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 21
ctgtgctctg cttactcttc ggtacttctc tg 32

<210> 22
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 22
gtgactgtgt ctgtgtgagt tctggctact tc 32

<210> 23
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 23
cactgctctt cccagcctct gttaactact 30

<210> 24
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 24
ctcaagggtca cagtaaggag cagagtaagt gc 32

<210> 25
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 25
cacttactct gctccttact gtgaccttga gc 32

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 26
gcacaaactg agagactcag ggtactatgc 30

<210> 27
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 27
agagagcaga acagtgggta ccagggactt 30

<210> 28
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 28
gtgcatactt ctttactgcc tgcctctctcc 30

<210> 29
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 29
atagtcccag ctagtcagga ggctgatatg 30

<210> 30
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 30
ctcagtgtct tccactttct gcagtctctg 30

<210> 31
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 31
aagacctact agccagcatt cagcctctac 30

<210> 32
<211> 32
<212> DNA
<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 32

gctaggcagg ttacctctc tcattcacta ga

32

<210> 33

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 33

ctctttctcc ctccctgact acactctgaa tc

32

<210> 34

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 34

gtgatgggat tatctagtct cccctctctc tc

32

<210> 35

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 35

ttagagactt aagggtgca ggaccagagt ag

32

<210> 36

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 36

ggagtgggag agaagtgctg aaagagatac

30

<210> 37

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of ABCB11

<400> 37

gtatctcttt cagcattct ctcccactcc

30

<210> 38

<211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB11

 <400> 38
 atctagctga ctacttcctc tgggtacagc ac 32

 <210> 39
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

 <400> 39
 accttagccc aggtccttgc acatagtaag 30

 <210> 40
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

 <400> 40
 cacaaccctc tagccctctc tctttatcag 30

 <210> 41
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

 <400> 41
 ctgagacaga cagacaggca aatacacctc 30

 <210> 42
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

 <400> 42
 ggaggggtaa gacaaggagg aagagacata ac 32

 <210> 43
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

<400> 43
 gggagtaggg atgtgggtcag agaggaaata 30

<210> 44
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

<400> 44
 cataactcac tgcagcctca gactcctaag ac 32

<210> 45
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

<400> 45
 tcccctctgt aggtagtact gtgtccaaga tt 32

<210> 46
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

<400> 46
 agacaccttt caggcctttt agcatacaga c 31

<210> 47
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

<400> 47
 ctaaaaggcc tgaaagggtgt ctatctggaa g 31

<210> 48
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

<400> 48
 gtatatacta gaaagtcagc tctgcccact gga 33

<210> 49
 <211> 30

<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB4

<400> 49
gtccagtgagg cagagctgac tttctagtat 30

<210> 50
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB4

<400> 50
aacctagact ccagggctga ataggactct 30

<210> 51
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB4

<400> 51
agagagctgt gttctagcct ctctctcttt cc 32

<210> 52
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB4

<400> 52
gaagtcacac ttccccctga taaggagtct ac 32

<210> 53
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB4

<400> 53
cacctgtgtc agaatactag caactgttac cc 32

<210> 54
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer for Amplification of ABCB4

<400> 54
 tttacccatc tctaccttct atccccctac tc 32

 <210> 55
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

 <400> 55
 cctagaagac agcttttaggc agtacaggga ag 32

 <210> 56
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of ABCB4

 <400> 56
 gtctacccaa cccattcagg accataagac 30

 <210> 57
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of JAG1

 <400> 57
 ctgcaggaca tacctactat tagggccaaa ac 32

 <210> 58
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of JAG1

 <400> 58
 actaccccgag ccgagatcta actatagtgt cc 32

 <210> 59
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide Primer for Amplification of JAG1

 <400> 59
 agtcaaacat gcagagtcct ctaccagctc 30

 <210> 60
 <211> 30
 <212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of JAG1

<400> 60

aggtggggta gacaaggaac atgaactagg

30

<210> 61

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of JAG1

<400> 61

cccctcggta caaatacctg gttaggttag

30

<210> 62

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of JAG1

<400> 62

ccatctagcc catcagcact ataagggaag

30

<210> 63

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of JAG1

<400> 63

caccgagaga gtcctttcct ctatagtctg tc

32

<210> 64

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of JAG1

<400> 64

gagagccaag cctttcctac tgcttacatc

30

<210> 65

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide Primer for Amplification of JAG1

<400> 65

ctactgtgaa accagtgagt ctgccactct 30

<210> 66
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of JAG1

<400> 66
 actctggaac ctcacagaag accagaacac 30

<210> 67
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of
 SERPINA1

<400> 67
 ccttactcat gaccagctca caggatcttc 30

<210> 68
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of
 SERPINA1

<400> 68
 cagtaggaga ggtggtgagg cttataggag ac 32

<210> 69
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of
 SERPINA1

<400> 69
 ggattctggt tctgctactt cctcagtgac 30

<210> 70
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer for Amplification of
 SERPINA1

<400> 70
 gactagggag gagaagggat atagggtaat gg 32

<210> 71
 <211> 83756
 <212> DNA
 <213> Homo sapiens

<400> 71
 tatatatata cccttgttta aaaataaaag gtttgcagct ccatatTTTT taaaaaaatc 60
 ttaccaagc atttaaatcag tactgaatgg ttttgttctt gtcttcatgt caagttgaat 120
 ttgggggtac tattccagaa tatttacctg ttagacaatg ttctgtaaaa ggggcattgt 180
 agcagcatgc aggcagtatt caaccaaaaa ctgggcaaga gtcataattc actctggttt 240
 ctctttcctt ttaagcaggt agttccaatt tgccagcaga atgagtacag aaagagactc 300
 agaaacgaca tttgacgagg attctcagcc taatgacgaa gtggtccct acagtgatga 360
 tgaaacagaa gatgaacttg atgaccaggg gtctgctgtt gaaccagaac aaaaccgagt 420
 caacaggga gacagaggaga accgggagcc attcagaaaa ggtaaccaca tgaagtccc 480
 gtgactaggt cgcttataaa tcctcatgtg ggtcatggcc acacgtgcca aagatgatcg 540
 gtctatTTTT cgtggtctag gagagaatct tctctgatct ctcttagga tgcgactgac 600
 agaattggtg atgggcttg acaagtaccc attgtcctta gtaagaagg ctgggagagc 660
 atatctgaca agttctgcag agaaaataca ttaaggctct tgttagtgtg tgtatatata 720
 tatatatata tatatatata tatatatata tatatatata tatatatatt 780
 ttgaggcagg gtctcactgt gtctccccag ctggagtcca gtggtgtgaa ctcggctcac 840
 tgcagccttg acctcctgga ctcaagtgat cctcctacct cagcctcctg agtagctgga 900
 ctacaggcat gcaccagtat gtccaactaa tttttgtatt tgtgtgtgtg tttgtgtgtg 960
 tagatggtat ttcactatgt tgcccaggct cgtctcaaac tcctgagctc aagggatctg 1020
 cccacctcaa cctctcaaac tcctggaatt acaggcatga gctacgatgc gtagccagt 1080
 tatatatatt taaaatggag ttatgcgggc aagaatctgc atgttactgc acccagaaat 1140
 ttttaaagga tacatatcaa tcagtcttag atgttaacta ttagtattgt taaattggcg 1200
 gtatgagtta tataaataac catccttggt tatgtgtgtg tgtgtgtgtg tgtatatata 1260
 tatatatata tatatatata tatatgtata tggctgccc agggtcaggc cagcatcaga 1320
 ggcagggtct agaccaaggc cagcaaaact tttctgtaaa gggccagcaa gtaaacattt 1380
 taggctttgt ggaccacgtg gtctctgcca atgttgagt taagtgaccg cagacagtac 1440
 atcactgaag gcagtagaac atggcttgct tttaccatga tgccttttct tttgtggctt 1500
 ttctatttca tctcctgctg gttctccac cctggcaaac agatgtggg ttctcttgta 1560
 gctcttctcc atgagcaagc tgagactttt ctctctggac cccagatttg atatcaggct 1620
 gaaaatatatt cctccatggt gttccctaaa attctagccg aacaacctta gcatcacatt 1680
 cacagaaatc attatcatag tgttctgggt tcagcgtcc agacacgcct cctgcagcc 1740
 ttagtccag aagcctcgga ttttagctgg tttcccag gtctctgtta ctgccatttc 1800
 gcccttgaa gctttctaga agcctctttt tccccatgc caaaccccc ctctagtttc 1860
 tctttcttgg gttctgctat ctggatgagc tttttttt taataatttt aacctgtaga 1920
 agatgtgata tgcattgaaat cccatttctg caatgattct tcctgttctg gtcacagaat 1980
 ctgctgtgg ggagattctc agtgtgggga gtgcatgcac cccgcgagcc ccatctcacc 2040
 caaatgtggg gaggccattg actcctgtat gttgtgtgtc cgctaccttt ccatagcaaa 2100
 catttagatg gattacctct tagagtgggt ttctggtttt gatttcaagc tgttgaggat 2160
 tgagcttaag tgcttctgc cttgaatcag aaggtactaa actcatgata cttgacaaa 2220
 attaaagtga aattccctgc cgggcacagt ggctcacgcc tgcaatcca gcaatttggg 2280
 agactgaggt gagtggatca cctgaggtca ggagttcaag accagccaga ccaacatggt 2340
 gaaacccgt ctctactaaa aatacaaaaa ttagccaggc gtggtggcaa gtgcctgtag 2400
 tcccagctat ttgggaggct gaggcaggag aatcactaga acccgccagg cagaggtggc 2460
 agtgagctga gatggtgcca ttgcaactca gcctgggcaa caagagtga actccaactc 2520
 aaaaaaaaaa aaaaaaaaga aagaaagaaa atggaattcc caccaatctg aacaggaagg 2580
 tggcctctgt cataacaggt ccagactgga tattggtgaa ctagtctaaag ctgaagcagc 2640
 cagacaagtt acaaggaggt tctagttgat tgcccaaaac gtgaataaaa catgcttctt 2700
 cctcattcct tttcccgtca attgcaactg ttagtctcct atcacaattt tggaatctct 2760
 accaaatgta gatattctgat ggggtggcag gagaattggc tccatggggg ccagggtcaa 2820
 ctttgctctt ggtgcttggg ggcacgccat cagacgtgta gtccgagaca cagcaaaggg 2880
 accgggattg ggtgcctgca gaaatgtcag agacgcagt agtgggtgga aactctcatc 2940
 cctgtttttt ttacaactct gcctgccat tctgggtggt aggatccttt cctgactatt 3000
 cagtttgcag gtcatatgtt ttgtagattt ctaccctcgg tatatgggca ttaaaagagc 3060
 tcagtcttgg ccgggtgcgg cgactcatgc ctgtaatccc agcacttttg gaggccaagg 3120
 aagttgaatc gcctgaggtc aggagttcga gaccagcctg gccaacatag tgaacccca 3180
 tctctattaa aaatacaaaa attagcccgg catggtggtg cacacctata atcccagcta 3240
 ctcgggaggc tgaggcagga gaatcgcttg aacctgggaa atggaggttg cagtgaacca 3300

```

agatcccacc actacacgcc atcctgggtg acaaagtgag actccatctc aaaaaaaaaa 3360
aaaaaatgct cagtcttgaa tcttagtcat gttttccaag ggtgatttat attcctaggg 3420
gatttgggtg gttctcgctt ctcaaaaccc atatacaatg actttgcctg tgacttttta 3480
caaaaattct tattctaata cctctctgcg cccttcccaa gcacacagat gatgttcagt 3540
aaatgccaga cctctttcct cccattttccc atgtgccttg cctccctcac agccagtctg 3600
ctctccttct ttcctccctt cctctctttg ccctcttcat ccctctttcc tttcccacta 3660
tattctcatt tgtgcaatth cccagttaag gtcagtgtca ccctgacttc tctttctttt 3720
tttaatcatc atctgtcttt cttgacatth cacatcctga ataatttctt tcagagaatc 3780
agttctttaa gacatcagaa catgagtcac cctgcgaggt accaccagac taaccacagg 3840
gaccagcacc cattctagca aaacactgcc taagcagcct gaactgcgct agtttcttta 3900
atgagggttg tagcacagaa agttgctttt tttttttttt aaagaaagga aatcctctag 3960
cccaactaag ctttcctggt aaacaagtgc tttgagagac ccattcagag tacttttcac 4020
tagaaggacc tttattgtgt tttgtgagaa ggaaggacag gcacaaacat gctgttagaa 4080
tgtgccatgg agaaagataa gcccacaggt tcgagtggag taactttacc ctttgtgtaa 4140
agattcagca aagattctca gaaatgagcg ggaatgtttt cagtgtctat ggatgagctc 4200
tgtcgthtcc tgatgaacac acttctcagc atgtgttctg ggaaacacta gtttttgtat 4260
ttttggagtt tcttggtgtg ttgtttgttt gttttgtttt tgagatggag tctctctctg 4320
tcgcccagac tggagagcag aggcgcgata tcggctcact gcaaccccg ccttgggttc 4380
aagcgattct cctgcctcag cctcccaagt agctgggatt acaggcgtat gctaccacgc 4440
ctggctaatt tttgtatttt tagtagagac agagtthcac catgttggcc aggatggctc 4500
cgatctcctg aacttgtgat ccaccagcct cagcctccca aagtgtctggg attataggcg 4560
tgagctacca caccggcct taaagtgata tcttcataaa ataatctgga attaagaatg 4620
tggggtcttt agcgcatcta tgaattaata tttagtthga accaaaacac agataaagat 4680
ggctcattga aacgtatcaa tcgtaggata tcctagggaa tctgtgaaaa gtgctgaggg 4740
agctgttcca ctttaataaga tgaattttcc attttcggca cataccacat atgggagtct 4800
actctggcta cttattttct tcttttctct gatcggthgt aaattaccat ccacctccac 4860
agcctaaaaa caccagagta attgatgctt gtaaagccgc agggtgaggg gtattcctgc 4920
actgagtgat tactgatggg gaagggtggt gatactgtgc catctcattt tattttattc 4980
tttttattta tttgtttatt tatttatttg acagaatctc gctcttgtht cccaggctgg 5040
agtgaagtgg cgtgatctca gctcactgca acctccgcct cccgggttca agtgattctc 5100
ctgcctcagc ctcccagata gctgggatta ccggcgcccg ccatcacgcc cagctaattt 5160
ttgtattttt agtaaggacg gaattttgcc atgttggcca ggcttgtctt gaactcctga 5220
cctaaggtga ttcgcccacc ctggcctccc aaagtgtctg gattacaggg atgaaccact 5280
gtgcccggcc tattctattt atttttaaga ccttgggcaa catgctcatt ttagagaatt 5340
tgttttcaag tcatgtaatt tatgttgaa tcttgggtaa gaatctcttg ctcatggaaa 5400
cctaactcag ctggtggttt tcttctgct actttgcagc ccaagttcag aagtagattt 5460
ttaatgatag aagtcaccat aggaagacac tctcctttgc actaactggg ggttctcagt 5520
cctgcctgta catcagaacc tcttgtggaa tttttacaaa ctctctaggt gcctggacct 5580
agcccctgaa gatacagagt ggttctggga tgaggcaagg ggaagaatct atcatttaaa 5640
atgaattcag tggcctgaat attttctccc attctgttgt ctctttactt tgttgattgt 5700
ttcctttgct ttacagaagc tttttaactt gtgatctcat ttgtccgtht ttgctthgtt 5760
tgctgtgct tgtgaagtat tactcaagaa atctttgccc agthtagtgt cctggagagt 5820
ttcccaagtg gtttttttgt tgttgttgt ttgttttgt tgaggcagag tcttgctctg 5880
tcaccaggct gaagtgcagt ggcacaatct tggctcactg caacctcaac ttcttgagtt 5940
caagcaattc ccttgccctca gcctcccag tagctgggac tacaggtagt taccaccatg 6000
ctcggtctaac tttttgtatt ttagtagaga cagggtttca ccatgttggc caggatggct 6060
tccatctctt gaccttgtga tccaccaccc ttggcttccc aaagtgtctg aattacaggg 6120
gtgagccacc atgctcagac ttccccaggg ttttcttgga gtagthtcat agthtgagg 6180
cttagattta agtctgtaat ccattttgat tcaatttttg catatgacaa gagatgggt 6240
ctactttcat tcatctacat ataaatatgc agthtttctt tgcattattt attgaagaga 6300
ctgcctttcc ccaatgtatg ttcttggcac cthtgthgaa aacaagthta ctaaggatgt 6360
atgaatttat ctctgagtht tcttttctgt tccattgatc tgtgtgtctg tttttatgcc 6420
aataccacgt tcttthgttt attatagctc tgtcatataa tttgaagtca gtagtgtga 6480
ttcctacagt tctgttcttt tggcttagat tagctgtggc ttttctgggt cttctgtgtt 6540
tcccatacaa attttaggat ttttttctta tttctgtgaa gacagtcatt ggtattttca 6600
tagagattgc attgaatctg tagattgctt tgggcagtht ggacatttta acaatattcc 6660
aatccatgag catggaatat cattccattt ttctgtgtgc ctctthtagt tcttgcatca 6720
ttgcaatcaa tttatagtht tgattgcaga gatcttttac ttctthggta aacttaattc 6780
ttagctattt tattcatagc tattataaat gggattattt tttttctttt tttttatta 6840
tactthtaagt tttagggtac atgtgcacat tgtgcagtht agttacatat gtatacatgt 6900
gccatgctgg tgcgctgcac ccactaactc atcatctagc attaggtata tctcccaatg 6960

```

ctatccctcc	ccccccccc	cacccccacca	cagtccccag	agtgtgatat	tcccccttcc	7020
gtgtccatgt	gatctcattg	ttcaattccc	acctatgagt	gagaatatgc	ggtgtttgg	7080
tttttgttct	tgcgatagtt	tactgagaat	gatgatttcc	aatttcaccc	atgtccctac	7140
aaaggacatg	aactcatcct	tttttatggc	tgcatagtat	tccatgggtg	atatgtgcca	7200
cattttctta	atccagtcct	tcattgttgg	acatttgggt	tggttccaag	tctttgctat	7260
tgtgaataat	gccgcaataa	acatacgtgt	gcattgtgtct	ttatagcagc	atgatttata	7320
gtcatttggg	tgtataccca	gtaatgggat	ggctgggtca	aatgggtatt	ctagttctag	7380
atccctgagg	aatcgccaca	ctgacttcca	caatggttga	actagtttac	agtcccacca	7440
acagtgtaaa	agtgttccca	tttctccaca	tcctctccag	cacctgttgt	ttcctggcct	7500
tttaattgatt	gccattctaa	ctgggtgtgag	atgggtatctc	acagtgggtt	tgatttgcac	7560
ttctctgatg	gccagtgatg	atgagcattt	tttcatgtgt	tttttggctg	cataaatgtc	7620
ttcttttgat	tagtgtctgt	tcatgtcctt	cgcccaactt	ttgatgggg	tgtttgtttt	7680
tttcttgtaa	atttgtttga	gttcattgta	gattctggat	attagccctt	tgtcagatga	7740
gtaggttgcg	aaaattttct	cccattttgt	aggttgccctg	ttcactctga	tggtagtttc	7800
ttttgctgtg	cagaagctct	ttagttaa	tagatcccat	ttgtcaattt	tgtcttttgt	7860
tgccattgct	tttgggtgtt	tgacatgaa	gtccttggcc	atgcctatgt	cctgaatggt	7920
aatgcctagg	ttttcttcta	gggtttttat	ggtttttagt	ctaacgttta	aatctttaat	7980
ccatcttgaa	ttgatttttg	tataagggtg	agggaaagga	tccagtttca	gtttcctaca	8040
tatggctagc	cagttttccc	agcaccattt	attaaatagg	gaatcctttc	cccattgctt	8100
gtttttctca	ggtttgtcaa	aggtcagata	gttctaggta	tgcggcatta	tttctgagg	8160
ctctgttctg	ttccattgat	ctatatttct	gttttggtag	cagtaccatg	ctgttttgg	8220
tactgtagcc	ttgtagtata	gtttgaagtc	aggtagtgtg	atgcctccag	ctttgttctt	8280
ttggcttagg	attgacttgg	caatccgggc	tcttttttgg	ttccatatga	actttaaaag	8340
agttttttcc	aattctgtga	agaaagtcac	tggtagcttg	atggggatgg	cattgaatct	8400
gtaaatattc	ttgggcagta	tggccatttt	cacgatattg	attcttccta	cccatgagca	8460
tggaaatgtc	ttccatttgt	ttgtatcctc	ttttatttcc	ttgagcagtg	gtttgtagtt	8520
ctccttgaag	aggctccttca	catcccttgt	aagttggatt	cctaggtatt	ttattctctt	8580
tgaagcaatt	gtgaatggga	gttcactcat	gatttggctc	tctgtttgtc	tgttgttgg	8640
gtataagaat	gcttgtgatt	tttgtacatt	gattttgtat	cctgagactt	tgctgaagtt	8700
gcttatcagc	ttaaggagat	tttgggctga	gacaatgggg	ttttctagat	atacaatcat	8760
gtcatctgca	aacagagaca	atttgacttc	ctcttttcc	aactgaatac	cctttatttc	8820
cttctcctgc	ctaattgccc	gggccagaac	ttccaacact	atgttgaata	ggagtgggtga	8880
gagagggcat	ccctgacttg	tgccagtttt	caaagggaat	gcttccagtt	tttccccatt	8940
cagtatgata	ttggctgtgg	gtttgtcata	gatagctctt	attattttga	aatacgtccc	9000
atcaatacct	aatttactga	gagtttttag	catgaagggt	tggtgaattt	tgtcaaaggc	9060
tttttctgca	tctattgaga	taatcatgtg	gtttttgtct	ttggctctgt	ttatatgctg	9120
gattacattt	atcgatttgc	gtatattgaa	ccagccttgc	atcccaggga	tgaagccac	9180
ttgatcatgg	tggataagct	ttttgatgtg	ttgctggatt	cggtttgcca	gtattttatt	9240
gaggattttt	gcacaaatgt	tcatcaagga	tattggtcta	aaattctctt	ttttggttgt	9300
gtctctgccc	ggctttggta	tcagaatgat	gctggcctca	taaaatgagt	tagggaggat	9360
tccctctttt	tctattgatt	ggaatagttt	cagaagggaat	ggtaccagtt	cctccttgta	9420
cctctggtag	aattcggctg	tgaatccatc	tggtcctgga	ctctttttgg	ttggtaaact	9480
attgattatt	gccacaattt	cagatcctgt	tattggtcta	ttcagagatt	caacttcttc	9540
ctggttttag	cttgggagag	tgtatgtgtc	caggaaattta	tccatttctt	ctagattttc	9600
tagtttattt	gcgtagaggt	gtttgtagta	ttctctgatg	gtagtttgta	tttctgtgg	9660
atcgggtggg	atatccctt	tatcattttt	tattgtgtct	atttgattct	tctctctttt	9720
tttctttatt	aattctgcta	gcggtctatc	aattttgttg	atcctttcaa	aaaaccagct	9780
cctggattca	ctgatttttt	gaagggtttt	ttgtgtctct	atttcttcca	gttctgtctt	9840
gatttttagt	atttcttgcc	ttctgctaac	ttttgaatgt	gtttgtctct	gcttttctac	9900
ttcttttaat	tgtgatgtta	gggtgtcaat	tttggatcct	tcctgctttc	tcttgtgggc	9960
atttagtgct	ataaatttcc	ctctacacac	tgctttgaat	gcgtcccaga	gattctggta	10020
tgttgtgtct	ttgttctcgt	tgggttcaaa	gaacatcttt	atttctgcct	tcatttctgt	10080
atgtaccag	tagtcattca	ggagcagggt	gttcagtttc	cacgtagtgt	agcggctttg	10140
agttagattc	ttaatcctga	gttctagttt	gattgcactg	tggtctgaga	gatagtttgt	10200
tataatttct	gttctttttac	atttgctgag	gagagcttta	cttccaacta	tgtgggtcaat	10260
tttggaaatg	gtgtgggtgtg	gtgctgaaaa	aaatgtatat	tctgttgatt	tgggggtggag	10320
agttctgtag	atgtctatta	gggtccgcttg	gtgcagagct	gagttcaatt	cctgggtatc	10380
cttgttgact	ttctgtctcg	ttgatctgtc	taatgttgac	agtgggggtgt	taaagtctcc	10440
cattatatta	gtgtgggagt	ctaagtctct	ttgtagggtca	ctcaggattt	gctttatgaa	10500
tctgggtgct	cctgtatttg	gtgcataatat	atttaggaga	gttagctctt	cttgtcgaat	10560
tgatcccttt	accattatgt	aatggccttc	tttgtctctt	ttgatctttg	ttggtttaaa	10620

gtctgtttta	tcagagacta	ggattgcaac	ccctgccttt	ttttgttttc	catttgcttg	10680
gtagatcttc	ctccatcctt	ttattttgag	cctgtgtgtg	tctctgcacg	tgagatgggt	10740
ttcctgaata	cagcacactg	atgggtcttg	actctttatc	caatttgcca	gtctgtgtct	10800
tttaattgga	gaatttagtc	catttacatt	taaagtgaat	attgttatgt	gtgaatttga	10860
tctgtcatt	atgatgttag	ctgggtgattt	tgctcgtag	ttgatgcagt	ttcttcctag	10920
tctcaatggt	ctttacattt	tggcatgatt	ttgcagcggc	tggtagccgt	tgttcccttc	10980
catgtttagt	gcttccttca	ggagctcttt	tagggcaggc	ctgggtggtga	caaaatctct	11040
cagcatttgc	ttgtctgtaa	agtatttgat	ttctccttca	cttatgaagc	ttagtttggc	11100
tggatatgaa	attctgggtt	gaaaattcct	ttctttaaga	atgttgaata	ctggccccc	11160
ctctctctcg	gcttgtaggg	tttctgccga	gagatccgct	gttagtctga	tgggcttccc	11220
tttgagggta	acccaacctt	tctctctggg	tgcccttaac	attttttctt	tcatttcaac	11280
tttggtgaat	ctgacaatta	tgtgtcttgg	agtgtctctt	ctcgaggagt	atctttgtgg	11340
cgttctctgt	atttctgaa	tctgaacgtt	ggcctgcctt	gctagattgg	ggaagtctc	11400
ctggataata	tcctgcagag	tgttttccaa	cttggttcca	ttctcccat	cactttcagg	11460
tacaccaatc	agacgtagat	ttgggtctttt	cacatagtcc	catatttctt	ggaggctttg	11520
ctcatttctt	tttattcttt	tttctctaaa	gttcccttct	cgcttcattt	cattcatttc	11580
atcttccatt	gctgataccc	tttcttccag	ttgatcgcat	cggtctctga	ggcttctgca	11640
ttcttcacgt	agtctctgag	ccttggtttt	cagctccatc	agctccttta	agcacttctc	11700
tgtattgggt	attctagtta	tacattcttc	taaatttttt	tcaaagtttt	caacttcttt	11760
gcctttgggt	tgaatgtcct	cccgtagctc	agagtaattt	gatcgtctga	agccttcttc	11820
tctcagctcg	tcaaagtcct	tctccatcca	gctttgttct	gttgctgggtg	aggaactgcg	11880
ttcctttgga	ggaggagaga	cgctctgcgt	tttagagttt	ccagtttttc	tgttctgttt	11940
tttccccatc	tttgtgggtt	tatctacttt	tggcttttga	tgatgggtgat	gtacagatgg	12000
gttttctgtg	tggatgtcct	ttctgtttgt	tagttttcct	tctaacagac	aggaccctca	12060
gctgcaggtc	tgttggaaata	ccctgccgtg	tgagggtgtca	gtgtgcccct	gctgggggggt	12120
gcctcccagt	taggctgctc	gggggtcagg	ggtcagggac	ccacttgaag	aggcagtctg	12180
ttggttctca	gatctccagc	tgcgtgctgg	gagaaccact	gctctcttca	aagctgtcag	12240
acagggacat	ttaagtctgc	agaggttact	gctgtctgta	ccctgcccc	agagggtggag	12300
cctacagtgg	caggcaggcc	tctgagctgt	ggtagggctcc	accagttctg	agcttcccgg	12360
ctgctttgtt	tacctaaagca	agcctgggca	atggcgggca	cctctcccc	agcctcgtctg	12420
ccgccttgca	gtttgatctc	agactgctgt	gctagcaatc	agtgaagattc	cgtgggcgta	12480
ggaccctccg	agccagggtgt	gggatatagt	ctctaggctg	gccgtttttc	aagccgggtct	12540
gaaaagcgca	atattcgggt	gggagtgaac	cgattttcca	ggtagcgtccg	tcaccctttt	12600
ctttgactcg	gaaagggaa	tccttgacct	cttgccgttc	ccagggtgagg	caatgcctcg	12660
ccttgcttgc	gctcgcgcac	agtgcgcgca	cccactggcc	tgcgcccact	gtctggcact	12720
ccctagttag	atgaaccggg	tacctcagat	ggaaatggag	aaatcacccg	tcttctgtgt	12780
ctctcacgct	gggagctgta	gaccggagct	gttccctatc	ggccatcttg	gctcctccca	12840
atgggattat	tttcttgatt	tctttttcag	attgtttgct	gttggcatac	agaaaggcta	12900
ctgatttctg	tatgttgatt	ttgtatcttg	caaccttaca	gaatttgttt	accagttctg	12960
atagtttttt	ggtggagtct	ttagggtttt	ccaaatatga	gatcataatca	tccgcaaaca	13020
aggataatth	gacttattcc	tttccaatth	ggatgcogtt	tatttctttc	tcttgtccga	13080
ttgctctagc	taggacttct	ggtgaaagta	ggcatccttg	acatgttcca	gatctaagag	13140
gaaaggcttt	tagtttttcc	ccattcagtt	tgatactagc	tatgggtctg	tcatatatgg	13200
cttttattat	actgaggtat	gttgttctgt	accagtttt	ttgaggattt	tttttatcat	13260
gaagtgatgt	tgaattgtat	caaattcttt	ttcagcatca	attgaaatga	tcatatggtt	13320
tttgcccttc	attctgttga	catgacatat	cacattaatt	gatttgtgta	tgttgaacaa	13380
tctttgcatt	tctgggataa	atcccacttg	atcatgatga	atgatctttt	taatgtgttg	13440
ttgaattcaa	ttttctagta	ttttgttttg	gatttttgca	tcaacattca	tcaatgatat	13500
tggcctatag	gtctttttgt	ttttgttttt	gttttttgat	gtgtctttgt	ctggtttttg	13560
catcagggtga	atactggcct	tgtagaatga	gtttggaagt	atttccctct	gtttattttt	13620
gaatagattg	agtaggattg	gtattagtct	ttcttttaaat	gcttggtagt	attcagtagt	13680
gaagccattg	ggtcctggga	ttttcttttg	tgagagactt	tttattatgg	ctttgatctc	13740
attacttggt	attcatctgt	ttgggttttg	gatttcttta	tgattcaatc	ttggtaggtt	13800
ttatgtatct	aggaatttat	ccattttttt	ctacattttc	caatttattg	gcaaatagtt	13860
gctcatagta	gccactaatg	atctttgaa	ttctgtggta	acagttgtaa	tgtcttcttt	13920
ttcagctctg	attttatatta	tttgggtctc	tctttttttg	cttttttttt	tttttttttt	13980
ttttagttag	tccagctaaa	ggtttgtcaa	ttttgtttat	cttttcaaga	aactaacttc	14040
ttggccaggc	acagtggctc	acacctgtaa	tcccagcact	ttgggaggct	gaggtaggtg	14100
gatcacttga	gggcaggagt	ttgagaccag	cctggccaac	acagtggaac	cctgtctcta	14160
ctaaaactac	aaaaatttagc	caggtgtggg	ggcacatgcc	tatagtcctg	gctactccta	14220
gctactcagg	agactgaggc	acaagaattg	cttgaacctg	ggaggcggag	gttgcagtga	14280

gccaagatcg	caccactgca	ctccagcctg	ggcaacagag	tgagactctg	tctccaaaaa	14340
aaaaccaaac	caaaccaaaac	caaaacaaaa	aaccgttttt	gtttcattga	tcttttgtat	14400
tgttttcttt	gtttcaatgt	catttatctc	tgctttgatc	tttattat	cttttcttct	14460
agtaactttg	ggtttggtt	gctcttgctt	ttctagttct	tttttttttt	tttttttttt	14520
tttttttttt	tttttttttt	gagacagagt	cttgctctgt	taccaggtt	ggagtgcagt	14580
ggtgtgatct	cggcttactg	caagctccgc	ctcccggtt	catgccattc	tcctgcctca	14640
gcctccccag	cagctgggac	tacaggtgcc	cgccactgtg	cccacctaag	tttttgtat	14700
tttttttagta	gcaatggggt	ttcagtgtgt	tagccaggat	ggtctcgatc	tcctgacctc	14760
atgatctgcc	cacctcggcc	tcccaaagtg	ttgggattac	aggcgtgagc	cactgcacct	14820
ggctctagtt	cttttagatg	catcatcagg	ttgtttgaag	tttttcttat	tttttgcagt	14880
aggcacgtat	agctataaac	ttccctccta	gtactgcttt	cactgtgtcc	cacaggtttt	14940
ggtttatcat	gtttccatta	tcatgtgttt	gaagaaat	ttcagtttcc	tgtttaattt	15000
cttcattgac	ccactgggtca	tttaggaaca	tattgtttta	tttccatgtt	tttgtatagt	15060
ttccaaaatt	cctcttatta	ttgatttcta	gttttactca	tttgtgtcag	tcagatgttt	15120
gatattat	caatttat	gaatgtttta	agactcggtc	tgtgacttaa	tatacgttct	15180
gtctttgaga	atgatccacg	tgctgaggaa	aagaatgtgt	attctacagc	tggtgtatga	15240
aatattttat	aaatatctat	ttggctctata	gtgcagatta	agtcccatgt	ttctttgttg	15300
atcttctgtc	tggaagatct	gtccagtgtc	gaaagtgtag	tggtgatgtc	tcagctattt	15360
atcttactgg	ggctctatcac	tctcttttagc	tctagtaata	tttgctttat	atatctgggt	15420
gtccagtgt	aagggtggata	aatattttaa	actattatat	cctcttgctg	aactgcacct	15480
tttatcatta	tatagtga	ttgtctcttc	ttatagtttt	gtcttgaaat	ctattttgtc	15540
tgatataaat	ataggtatcc	tggtcttttt	tgctttccat	tggcatggaa	tatcttcttc	15600
aatcccttca	ttttcagttc	aggtggagt	tctgtttag	gcaacagatc	actgggtctt	15660
tttttttttt	aaatctattc	agccactcta	tatcttttga	ttgacagttt	agccatttta	15720
cattcgatgt	tatatggata	agtaaggact	tactcttgcc	atcttgttat	gttttccggt	15780
ggctttgtgg	tcttctcttc	cttctttcct	cccttccctt	ctgcctttta	gtgaagggtg	15840
ttttctcttg	tggtgtgctt	taatttctctg	ctttttat	tgtatata	cattgtatgt	15900
tttttgattt	gagggtacca	tgaggcttgt	aagtactgtc	taataactca	ttattttaag	15960
ctaaaagaaa	actaataaac	tctacacttt	aacttccctc	ctctgctttt	taacttttta	16020
ttgtttctat	ttatatctta	ttgtactatg	tcttgaaaag	ttgttctagt	cactattttt	16080
tatcagttaa	tcttttagtc	atcttactga	agagttagtt	acatgtcaca	gtcacagtgt	16140
tatactattc	tgggtttttc	tgtatactta	actgttacca	gtgagttttg	tgcttccagg	16200
tgatttctta	ttgctcacta	acatcgttta	ctttctgatt	aatgtactct	gttttagcatt	16260
tcctgtagga	cagggtctagt	gttgatgaaa	tccctcagct	tttgtttgtc	tgggaagggtc	16320
ttcatttctc	ctttatgctt	gaatatattt	tccctcagca	ctttaaatat	gtcatgccac	16380
tctctcctgg	cctataagggt	ttccactgaa	aagtctgtcg	ccagacgtat	tggagtgcga	16440
ttgtatttta	tttgtttctt	ttcttttgct	gcttttagga	tccctccttt	tatccttgac	16500
tttttaggaat	ttgattacta	aatgcctgag	gtagtcttct	ttgggttaat	ctgcttggtg	16560
ttctacaacc	ttcttgttct	tggatattga	tatcttcttc	taggtttggg	aagttctctg	16620
ttattatcct	ttgaataaac	tttctacccc	tgtctctttc	tctacctcca	ctttaatgcc	16680
aataactctt	agatttgcct	ttttaagtct	atcttctaga	tctttagagt	gtacttcttt	16740
cttttttatt	cttttttctt	ctgtctcttc	tgaccatatt	ttccaatagc	ttaccttcca	16800
gctcactaat	tctttgttcc	acttattcaa	tccctggtatt	aaaagtctct	gatgcattct	16860
tcagtatgtc	ggttgcattt	ttcaactccg	gaatttcagc	ttgactcttt	ttaattat	16920
caatctctgt	tacatttatc	tgatagaatt	ctaaactttt	tctgtgttgt	cttgaatttc	16980
tttgagtttc	ctctttgtta	agtttatctg	atagagttct	gaatgtcttc	tctgtgctat	17040
cttgaatttc	tttgagtttc	ctcaaaatgg	caattttgaa	ttttctgtct	gaaagggtcat	17100
atagttttgt	ttctgcagggt	ttggccccctg	gtgtcttatt	tagtttgttt	ggtgaagtca	17160
tgttttcctg	gatgttcttg	atgcttgtgg	atgttcatca	atgtctgggc	attgaagagt	17220
tagatattta	ttgtagctct	cacagtctgg	gcttgtttat	acccatcctt	cttgggaagg	17280
atctccagggt	attcaaaaaga	acttggtat	tatgattgaa	cccatatctg	cattaggggg	17340
catcccaagc	tcaataacgc	tgcatcttct	gcagactatc	tggagaat	atctggatta	17400
tcaagcccac	actcttgttc	ttgttgctta	ctttctccca	aacagaatca	atctctctct	17460
ctctcttttt	ttgtcttttc	tctctcccc	ttccccctc	cctctctctc	ctttctctct	17520
ctctctctcc	ctctgttctg	ggccaccag	agctaggggg	gtggagatac	aagcaccaat	17580
atggccatca	ccactgagaa	tgtactgggt	cagacatgaa	gctggcacca	cactgggtct	17640
cgccatggcc	cactgtaacc	atgatctggc	tgcctatgtt	ccctcaatgc	cctgttgtga	17700
agccagccag	gctagcttca	agccagtgg	ttcccccagg	ctgcagccag	atccagagat	17760
gccatctggg	agccatggac	tggagtccaa	aaccttagaa	atctgcttgg	tgtcctatct	17820
attctactgt	ggctgagctg	gcactcaaac	cattagccag	tcctttccac	tattctgccc	17880
tttccacagg	ctcagggggc	tctccccatg	tccaccacca	ccacaggcct	atgaggagt	17940

ctgccaggtt	actgctgatg	ttcggtaaag	gcctatggcc	tcttcagtca	gcttgtggta	18000
aatcctttca	gtcacccttc	agggcagtga	gctcccctct	ggcaaaaagc	aagtccagag	18060
atgtcatcca	agaacctaa	gcctagactc	agggacccca	agaggggtct	ctatttgttg	18120
ctttacccca	ctgtggccaa	gggtggtagca	agtgcaggc	aggctgggcg	cagtgtctca	18180
tgcoctgtaat	cccagcactt	tgggaggctg	aggcgggcag	atcacttgag	gccaggagtt	18240
agagaccagc	ctggccaaca	tggcgaaaacc	ctgtctctac	taaaaataaa	aaaaattagg	18300
ccgggcgcgg	tggctcactc	ctgtaatccc	agcatgttgg	gaggtcaagg	tgggtggaac	18360
acttgagggtc	aggagttcaa	gactggcctg	accaacatgg	tgcaacccca	tctctactaa	18420
aaatacaaaa	ttagccaagc	atgggtggcac	acacctctaa	tcccagctac	tccggagggt	18480
gaggcaggag	aattgcttga	acccggtagg	tggagggttc	agtgagctga	gatcgaccca	18540
ctgcactcca	tcctgggtga	cagagtga	aaccatctca	aataaaaataa	aataaaaataa	18600
aataaaaataa	aaaattttta	aaaattagct	gggcatgggt	gtacatgcct	gtaatcccag	18660
ctactcagga	ggctgaggca	tgagaattgc	ttgaacccag	gaggcacagg	ttgcagtga	18720
ctgagatgac	accattgcac	tccagcctgg	gcaaaatagc	aagactctat	ctctgaaaag	18780
aaagaaagag	agagagagag	aaagaaaaaa	gaaagaaaga	aagagaaaga	aagaaagaaa	18840
gaaagaagga	aggaaggaag	gaaggaagga	aggaaggaag	gaaggaagga	aagaaagaaa	18900
gaaagaaaga	aagaaagaaa	gaaagaaaga	gaaagatcaa	gagcaagaca	aagcaccctt	18960
taatttttct	tctgcttttc	tcaagcggaa	ggaatctctc	accatggcca	ccacagctgg	19020
gaatgtgctg	ggtcacaact	aaagccagaa	tatcttagcc	tcaattaagg	cccacagcct	19080
tggatattaa	ctgggtatga	ctactgttta	ttcagggtct	aagggtctct	tcacagcag	19140
gtgatggatc	ctgccagagc	tgggtccttg	ccctgcaagg	cagcaggctc	ccttctgac	19200
caggattgtc	tagaaatggt	gtctgggaac	tagggcctga	aacagcctca	tgaccctgcc	19260
tgggtgcccta	tcctactgtg	gctgagctgg	tatccaagat	gcaagacaaa	gttctcttta	19320
ctcctccctc	tcatctcctc	aagcagaagg	aagaggtctc	ttttggagca	gtgaggttgg	19380
cggggagggg	ccgagcaagc	attccactag	ctgctctggc	tgggtgtctca	gtaggtcatg	19440
tgcoctgctaa	gtcaactggc	tccaagtcca	gctcagcact	aggacttgcc	taagagttgt	19500
agttcatggg	gcctacactg	cctttcaatt	ttatttagag	cccaggggca	ctttggccct	19560
cgggtgacgag	gtttgccaga	attcaagttc	tgaccaaggt	acaggagatt	cccctctggc	19620
tagggctggt	ctaaatgctc	cctctatgg	ctggcatcag	ctgagttcag	cctgcttttg	19680
ctttctactg	tctgtaacag	ggcagcactg	agttcagtgc	aaagcctcac	aatcgctgca	19740
ctgtccctct	cccaagcgta	cagattttct	ctccatgcc	cacatctggt	gctggggctg	19800
ggggaggggt	ggcattggca	attcaagact	atttttccta	ccctcttcag	tcctttttca	19860
gcaatataaa	gttaaaacca	ggtactgtga	gtgcctgatt	ttttgggttt	tataaagggt	19920
cttttttgtt	tgtagatagt	tgtaaaattt	gatgttctta	tgggaattac	aattcgtgcg	19980
agcttctatt	tggccacctt	gctcctctcc	atattcgcca	tatatatata	tatatatatg	20040
ccaatagagg	gaaggagagg	aatcacaaa	attgctttta	aacagtaata	catgtaaattg	20100
atccaattag	aaaagggtcc	agaatgaaaa	tgaagttttc	cttctgctcc	ctcctgtccc	20160
tcagtcatgc	agtttccttt	ccaaaaaaa	tactgtggt	ctgggcacgg	tggtccacac	20220
ctgtaatccc	ggcactctgg	gaggccaagg	caggaggata	gcttgtgggc	agcagttcaa	20280
gaccagcctg	gtctgcaaag	caagacctca	tctttacaaa	aaaattttaa	aattagggtac	20340
gatggcgtgc	acttttagtct	cagctactcc	agaagttgag	gtgggaggat	cacttgagcc	20400
caggagttca	gaggctgcag	tgagctatga	gcatgccact	gcactccagc	ccaggtgcca	20460
cagtgcagact	ttgtctttta	aaaaaatgac	aaaaagaaat	tacggttacc	agtttctcaa	20520
aatatgtcct	tccagagaga	tacacgtttg	tatgcgcaaa	gaatgcttgc	aaacttgctt	20580
cctcatatac	ccatacacat	atgcagaaac	agatgtgcac	gtgtgtgtac	atataatgcat	20640
tcatattgtg	tatgaattct	atgcatcaca	cagctgaaag	cacaagatgg	tagataccct	20700
tctgcttttg	tctcttaaca	gtgtaatttg	gaggtaattc	ctaccatatt	tatgggggtca	20760
cctcattctt	tttttgctga	ctgcataggc	tatcattgta	atcgtgttta	actggctgtt	20820
cccagtaggc	atttgggttg	tttctagtcg	ttctgataaa	tagggctgca	ttgaaaatcc	20880
ctgcagtagg	tacatggggg	atatttccta	gaagtgtgat	tatttggtca	gtgcatgtgt	20940
gtgttaaatt	ttgagatctg	gccaaattac	tctccataaa	ggctacctca	gagtgtctgt	21000
ttctctgctc	tcttttgaac	ctagaatgtc	atcccaagca	ttaccatgtg	ccaatgtttt	21060
gctattatag	gataaaaact	actatctcag	tgaagaattg	catttctctt	ttaggaaccc	21120
aaatatcttc	tcacaggttt	aagagccatt	tgaggccagg	tacagtggct	catgccatt	21180
atcccgccac	tttgggaggc	caggtggggc	agatcacctg	aggtcaggag	ttcaagacca	21240
gtctggccaa	catgatgaaa	cccgtctct	actaaaaata	caaaaattag	ccgggcatga	21300
tgggtggcgc	ctgtaacccc	agctactcag	gagagtggag	caggagaatc	tcttgaaacc	21360
aggagacgga	agttgcagtg	agctgagatc	gcagcatggg	actccagcct	cagcgagaac	21420
agcattgaat	ttccctttgt	atgaaactgtc	ttttcatgtc	cttttagccat	tctctcttca	21480
attgtttcta	tgggtttttt	ttctttttga	tgttgacttt	tttatctact	tgttttccct	21540
gtttgctgca	gtgtgtacca	accagtgcag	cttcttgggt	gttgggtgggt	ctgtaagcaa	21600

gcgttcggag	ccagcacaga	gaggatgaga	ggagggctgc	actcatctgc	tcttccagat	21660
ggcactgatc	aaaggacgtg	gtgatcatgg	gaacactctg	gagagcacgt	agccatattt	21720
agatatattg	acaacacaac	catttagtag	actcaggggtg	actttaagcc	acatgtcaca	21780
tggcagctgt	taaaatcatc	tctgtacatg	tacatggata	gttctgatgg	cacacccttg	21840
ttagctttgt	agcttttagc	taaagggcca	tatgggtgaag	gtgcattttt	tgcatttctt	21900
atctcttctc	ttttctttgt	caatatatcc	attctagaaa	atgagatgag	ccaggcacag	21960
tgtggtgcat	gcctgtaatc	ccagctactc	tgaaggctga	ggcaggagga	tcacttgagc	22020
ccaggaatth	gaggccagcc	taggcactgg	gcaacatagt	gagactccgt	ctcttaaaaa	22080
aaaaaaaaaa	gaaaagaaaa	gaaaaagtgg	ccaggcatgg	tgactcaagc	ctgtaatccc	22140
agcacttttg	gaggtcgagg	caggtggacc	acctgaggtt	aggagtthga	gaacagcctg	22200
atcaatatgg	tgaacccttg	tctctactaa	aaatacaaaa	attagccggg	cgtggtgggtg	22260
tgcacctgta	gtcccagcta	ctcgggaggc	tgagatagga	gaactgcttg	aacctgggag	22320
gcagaggctg	cagtgaagctg	agatcgcacc	actgcactcc	acctgggatg	acagaacaag	22380
actgtctcaa	acaaaaaaaa	aatgaaaaaa	gaaagaaaaa	aggacaaaaa	aagaaaaatgg	22440
ggcaagatgc	ttactctttc	tgtaaattat	ctttgtagtt	caagtgtcca	gtaaagttht	22500
ctgttccaag	cagacactta	aaataaatat	ttgtcaaaaa	aggtcaattc	ctccacgtgc	22560
tgttttgctg	cccttcctaa	aggcatgtgt	atcagtgcag	cacttcttaa	ctgatgttaa	22620
taagtgttct	gtgatttttt	aaaaagtgcc	tatgattata	ttaatttttg	aaaagctatt	22680
ttaaatatata	aagcattttta	aacatttaac	ttataaaaata	aaatcagttt	atttactaca	22740
ggacttctca	cagccttttaa	tgtacaagca	aatccaccga	acttccaaga	gagggttgta	22800
aggtgctgtc	ttctgcaagt	gtgtctgtcc	atggagctct	gttttcatat	tttcatggta	22860
tctcattgaa	atacagctca	agcaattagc	ctaaactcat	agatgaataa	agagtagaca	22920
tcaatttggt	tgtcccttga	tttgtctgaa	ttaggccaaa	caaggatctt	taactggaaa	22980
taggggttatt	gattacttga	ctgcagtcag	atcttctaaa	ttgagtaaaa	acgtgtttgc	23040
ggttcaattg	cagacaaaga	catactgggt	actttctcca	ggctccccac	agtattggca	23100
gaagtgtaaa	attaagagat	caaggtcatt	tctggtaacc	cctcactgca	cctactcgag	23160
gtctgatgcc	accctctctg	tctgaatcat	ccaaatcaaa	attggccagg	gatgagggtta	23220
tagtgctggg	accagacaga	gccaccacca	gctgggtggc	taattatgaa	gcaaatttat	23280
agagccacaa	gggggatgga	ccagaagtgg	actgggaaag	atcattatgt	ccagctcctt	23340
aacagggcag	tttcttcttt	ccacttgagt	tatttctaaa	attgactttt	taaaaatccc	23400
ttattggcct	tttctgtctt	cttgagaaat	cttgtctgtt	tttcttctca	gccttcctga	23460
aatgcgtaac	agtggttctg	aacagtgttc	tagaaccctg	gtgggtggga	tgtgtcacaa	23520
gtcatctgtg	tgtctaaagta	aaccatttaa	agcacatgca	tttgcaaatt	accaccaaatt	23580
agaatggatt	caagagtacc	ttatgtaagg	tcttatctac	ctactttgag	aacgcctttt	23640
tgagtggaa	gagctgttct	gattgcctat	gtgattacag	tgtttatgag	tggctttata	23700
tttccatttt	tattttccct	tttgataaga	ttgcacttga	gctacaaaga	taccaggaac	23760
atthttcattt	gtaataaacac	aactgttatg	attaccgat	gaaaggcagc	caaatgatg	23820
cgagaaaaat	gttcaatagt	gatatttgtg	ctttaaaaaa	gcaatcaggt	taattatttg	23880
cattcctcaa	tagtctacac	ttgttaactt	tttttttttt	tttttttttt	gagacagagt	23940
ttcctgtctg	cgcccaggct	ggagtgcagt	ggcactatct	cggctcactg	caacctctgc	24000
ctcccagggt	caagagattc	tcttgctca	gcctcctgag	tagctgggat	tacaggcatg	24060
caccaccatg	ccccattact	tttttgtgtt	tttagtagag	acgggggttt	accatgtttg	24120
ccaggctggt	tttgaactcc	tgacctcaag	tgatccatcc	acctcgccct	cccaaagtgc	24180
taggattaca	ggcatgagcc	acctatgctg	gcctacactt	gttactcttg	ccatattgtc	24240
tatatttctt	ttggagttag	agtctagaaa	atacatcatt	ttgccaggca	cagtggctca	24300
cgctgtaaat	cccaggactt	tgggaggcca	aggetgggtg	atcaccaggt	cagaagttca	24360
agaccagact	ggccaatatg	gtgaaacccc	gtctctacta	aaaatacaaa	aattagccgg	24420
gtgtgggtgg	aggcacctgt	aatcccagct	actcaggagg	ctgaggcaga	agaatcactt	24480
gaaccgggga	ggcagagggt	gcagtgaagc	gagatcacac	aatctttatt	attatagttg	24540
ttaagactga	tattttttgta	atthtttact	ttcaagtgtc	ttttaatata	ttcccatctc	24600
caaaaaatagt	tgtgccacac	tcattgttaa	tttctcttct	ctgccaatth	ggtgggggatt	24660
catcaacacc	tagttctctc	cattatgtgc	gtcactcaag	ggagcttcat	ccagcatgca	24720
tgttcatgga	gaacttggtg	ccaaagaggt	gcttctctcat	tctcttttct	tttcttttct	24780
gtttgttttt	ttgagatgga	gtcttgctct	gtcgccagg	ctagagtgca	gtggcgcaat	24840
ctcagctcac	tgcaacctcc	acctccggg	ttcaaaacaat	tttctgctct	cagcctcctg	24900
agaagctggg	attacaggtg	ccgcacctg	cacctggcta	tttttagtag	agacgggggt	24960
tcaccacctt	ggccaggctg	gtcttgaaact	cctgacctcg	tgattcaccc	gccttggcct	25020
cccaaagtgc	tgggattaca	ggcgtgagcc	accgcgccc	gcctgtctcc	tcattttctt	25080
cctgatthtat	agcatgcttg	cctccagctt	tcatagcagc	agcatgctta	tgccttctct	25140
gaggcatcaa	gatgtcagca	ggatcgattc	cttctgagag	ctacaaggga	gagatctgtt	25200
ctaggcttct	ctccttggct	tgcagatggc	cattttctct	ctgtgacttc	gcatcgctct	25260

```

ccatctatct ctgtgtccaa atttcccttt ttgtaaaggt atcagtcagt ttgaattagg 25320
gtcctctcta atgacttcac ttttaatttga ttacatctgc aatgagcagt ttccaaataa 25380
ggtcacattc tgagggatgg aggttttagga cttcaacatt tgaatctggg gaagacacaa 25440
ttcaactcat aacaacatgt taatttgcta cttacgaact tttctccctt ttttttaaag 25500
aatgtacatg gcaagtcaaa gcaaacgac gcaagtacca cgaacaacct cactttatga 25560
acacaaaatt cttgtgtatt aaggagagta aatatgcggg gagttgttaa ctttctgaat 25620
tgttttcatt aaaatgcagt tttttccagt agctggcatg cttactacct tcatgctaca 25680
cctgccttcc acgtaaccac ctgcctgggg ctactgataa tcatcattgt ttctatagaa 25740
tgtcattttt attgatgttt acctttgggg tgggtagcgg gtgacttgaa acaaaacaga 25800
attatgtaga ttgaaatttt ctctctcttt tttaaatttt aagctctctt agaaatgttt 25860
tatgaaagaa tatacaatga tggcacagaa gcctcctggt tgaaagtaat gagtttgaaa 25920
ggaatctctt aagaacttat cttcccttcc tctgcctgga atggatttag agattttaaa 25980
catatttttg actcaaaaat gcttattacc tttggaatgt gataaagaat gcttaaagat 26040
taaatgcgaa atacaaaaat tagcctggag tgggtggcatg tgcccacagt ctcagctact 26100
tgaggaggctg agccaagaga atcgcttgag cccaggaggc agagggtttca gtgagctgaa 26160
attgtgccat tgcactccag cttgggtgac aggagtgaga ctctgtctca ataataataa 26220
taataataaa tattaagtgt gggcttaaat gttgtaagat gtgtgtttta atgccaaggg 26280
cttccatagc agagtaccac aactggatgg cttaaaacaa cagaagttaa ctctctcctg 26340
atgcagggat cagaagtctg aaatcttggg tttggcaggg ttggctcctt ctggagcctc 26400
tgcaggagaa tctgttccct gcctctcccc ttggttctgg tggccactgg caatccttgg 26460
agttccttgg cttacagatg aagtcacccc aatctctgct tccatcttca aggggcactc 26520
ttcctgtgtg tgtctgtgtg caactttcct cttataggga cccagtcctg aataagcacc 26580
tcattaaatt agagcctgtc ctaatcacgt atgacttcat cttgattatc tctgcgaaga 26640
tctattttcc aaataagatc ccattcatag atattagtgt taagacctga acatatcttt 26700
tgcaggacac aatgcaaccc actacagtac cttttgctct ttcttacata gtaggctctg 26760
tctcctcact taaataaaaag cctcactttt cctggccttg gccatgttgt tgtctacctt 26820
taccctgttt tctaacagtc tctaattggg caaggaatct gacagcagga tttatttggg 26880
cacagtctga tgtctgtttc ttgttactgc ctctgtcata agactccaag tagtcatttt 26940
gaggcttggc tgcttggcta gaattaaaag cttaaaagaa atatcagtat ctttctttct 27000
tcttttcttt ttttaaggcag agtctcactc tgtcactcag gctggagtgc agtggggcga 27060
tctgcaactt ctgcctccct ggttcaagcg attctcctgc ctcagcctcc caagtatctg 27120
ggattacagg tgcaggccac cagcctggc taatttttgt attttttagta gaggtggggg 27180
ttcaccatgt tggctaggct ggtctcaaac tcctaggctc aggtgatcca cccacctcgg 27240
tctcccaaag cgctgggatt gcaggcataa gccaccgcac ccagacaaaa tcctcaatat 27300
ctttctgaca gatgatgttc ctttgtcact gtaagctgtg ggacttgtga cttttgcaga 27360
tgtgtataca ttgtgataaa tacagcatca tttagaatga ctcttatttt ttccaacaga 27420
ataatgcaat taaaacatac aagtacaacg cattttacct tataccaatg aatctgtttg 27480
agcagtttaa gagagcagcc aatttatatt tcctggctct tcttatctta caggtaatgc 27540
cctttgctat cttaaatctg tttgaattat agtgactcga taacatttaa gctgtagaca 27600
catataatgt gaataatctt gaaagtgttt tatattagca tcagggttct gtacataaag 27660
gaacagtgcc tcatacacag aaccagctca atcagtgtta tatgaacagg gaaagggagc 27720
aaatggaaat attattctaa ttctgtattt taaaaaattt catgttatac tgatatgggt 27780
gttaaaattg gtatccctga agtgaataaa actaaaatcc agccaggctc agtggccac 27840
gcctataatc ccagcacttt gggaggccga ggcgggtgga tcacctcggg tgaggagtgc 27900
cagaccaccc tggctaacat ggttaaacc cgtttctact aaaaatacaa aaaattagcc 27960
aggcgtgatg gtgcatgcct ataatcccag ctactcggga gactgaggca agagaatcgc 28020
ttgaaccag gaggcggagg ttgcagtga ccgagatcac accattgcac tccagcttgg 28080
acaacaagag ctaaaactcca tcttaaaaaa aaataaaaata aaatccttac tttgtaaaat 28140
tatttgcacc ttaaaattaa agctattttt tgcttgcctt ttatcattgt agttagatgc 28200
tgaatttccc ccccaaaaag atcattgatt ttttattaaa attttggc taaatttcag 28260
taagttattt ttgtgaactg tttttacatt ttaaaaggcc tacttaaaaa ttttttttcc 28320
taattgtggc aaagcatcca gttatccaga gagcatgagt ttagctgtgc aagaactgtt 28380
gctgtaaccg agggaactct acacacacta gttagcgcca gaatcaacct ttagtgtctg 28440
ccgtgcggat tacatagctt aagctcagaa tatccacctg gttttttcag attctttttt 28500
tttttttttt tagagccgtg tttcgctctt ctgctccagg ctggagtga gtggcaccat 28560
cttggctcac tgcaacctcc tctccttct ctgggttca agcgattctc ctgcctcagc 28620
cccctgagta gctgggatca cagttgccag ccaccacgcc cagctaattt ttgtattttt 28680
agtagagaca gggtttcacc atgttgacca ggctggctct aaactcctga attcagggtga 28740
tccacccgcc tcagcctccc caagtgtctg gattacaagc atgagccact gcgcccggca 28800
ctttatcaga ttctttacgg caagcatttg atttgaaaaa gttataacct ctgggattga 28860
ccctttaagg ttttatgaaa atggggtaga atgtgtgtct aggtggggat ggaggatgcg 28920

```

tggagaggag	agaaaaagaa	gagacgatgg	taaggagaaaa	tggataggca	atgatttagg	28980
aaactgtaag	accttcaagt	cagatagtaa	aggatggccc	tggtatcaaa	ggagatgctt	29040
agaaagggtg	gtgtagagg	tagcactgca	aactccaagg	tgctgctctg	taggaagtag	29100
accattttcc	cttacttcct	tctagcagg	aagaggagtt	tcacatatcc	actgtgatgt	29160
gggaagaagg	atctttttgt	cttctaactg	caccccagtt	atcttctctc	tctctttttt	29220
tttttttttt	gagatggagt	ttcgctcctg	ttatcaaggc	tggagtgcaa	tggcgtgata	29280
tcagctcacc	aaaacctctg	cctcccaggt	tcaagctatt	ctcctgcctc	agcctcctga	29340
gtagctggga	ttacaggcat	gcgccaccac	acctggctaa	ttttgtattt	ttagtagaga	29400
cggcggtttt	ctatgttggt	caggctgggt	tcgaacttcc	aacctcaggt	gatccgcca	29460
cctcggcctc	ccaaagtgtt	gggattacaa	gcatgagcta	ccgtgcctgg	cgcagttatc	29520
ttctcttaag	gtcagcaatc	caaattagg	taacagtaat	agccgtaggc	agcttcttaa	29580
cttgtgttgt	cactacactt	aattcttcta	gtctagaagg	tcaggcctgg	catgacctcc	29640
atthttgcaga	gaaaagctga	ggcctagtaa	gctaaagtaa	cttgctcaaa	gtcccataag	29700
ccataaatga	tagagctgac	caagacttgg	atctaggagt	tgactccaaa	gcctgtcatt	29760
ttaaccacta	cattatacag	cccagtgatc	aggaggatgg	ttatgaaata	actttattaa	29820
acttgcattc	caatctttgt	tcaaacttag	aggctgtctt	gatggaggaa	ggccagctca	29880
ctttctttga	taggccaata	gtgatgatca	tgaaggaagc	actttcttct	aatgcctca	29940
gagatgctct	ccctaattcc	tcactttcag	aggcagctag	tacctcttgc	catcattgct	30000
ttcagcatgg	gatcctcaga	aacctactgac	tgagaaacct	gcagtataga	acctactatg	30060
catgcattcc	ttaaaagtta	agatgacttt	ggccaggcac	ggtggctcac	acctgtaatc	30120
ccggcacttt	gggaggctga	ggcaggaggga	ttgcctgagg	tcaggagttc	gagaccagcc	30180
tggccaacat	ggtgaaaacc	catctctact	aaaaatacaa	aaaaattagc	cgggggtggt	30240
ggcacacacc	tgtaatccca	gctactcagg	aggctgaagc	aggagaatcg	cttgagcctg	30300
ggaggcggag	gttgcatgga	gccccaaattg	tgccactgca	ctccagcctg	ggtgacagag	30360
ggagactctg	tctcaaaaaa	aaaaaaagaa	aaaaaaagtt	aagacgagac	ttctcccttg	30420
ccactcctac	cccctcacc	ccagttaaat	atgattttca	caaaagattt	agagcaactc	30480
tttttttaggt	atcataatac	aaaacttcct	tggtgtccag	ttaagtttgc	aatgagataa	30540
tttcaggagc	cactgccttc	taggctctgt	tccaggtatc	cagaagctag	agagaaccac	30600
tagaaggagg	ttgtccaaat	gcttgaagag	cctttcctat	atactctgca	ggatgtagac	30660
ttatgtgatg	acggtgatga	gacttggaat	tagcaagctt	agaattagca	ataagttacc	30720
tgtaagcttg	atatgccttc	atggacacac	acataagccc	ttttattctt	ttaggcagtt	30780
cctcaaactc	ctaccctggc	ttggtacacc	acactagtgc	ccctgcttgt	ggtgctgggc	30840
gtcactgcaa	tcaaagacct	ggtggacgat	gtggtgagga	tttctcatac	aacgttctac	30900
tcattgcttt	gagttgactt	taagttctcg	tgcttctctt	ctctattgag	atgttttaaa	30960
cagcatttcc	ccatcttctc	tctcaaggct	cgccataaaa	tgataaagga	aatcaacaat	31020
aggacgtgtg	aagtcattaa	ggatggcagg	tactgtgtct	aattagtaac	tgagtttcaa	31080
ggatgtaatg	cataactctg	cctagaaaca	cattcagaga	taattattac	aatgtagaag	31140
gctattagta	cattaaactgt	ttattttttt	cgagatagag	tctcgctctg	tcgcccaggc	31200
tggagtgcag	tagcgttatc	tcggctcact	gcaacttcca	cctcccaggt	tcaagcaatt	31260
ttcctgcctc	agcctccgag	tagatgggat	tacaggcgtg	caccaccatg	ctcagctaat	31320
tttgtacttt	tagtagagat	ggggtttcac	catgttggcc	aggctggtct	caaactcctg	31380
acctcaagtt	atcctccttg	atctcccaaa	gtgttgggat	tacagggtga	agccaccatg	31440
cctggcctta	aattatcttt	ttaatgagta	tgtacccttg	ttgtaataaa	tctaataagg	31500
atagtataaa	aaatagataa	aaagatgact	atthttgagta	ctaaattcca	taggaaatat	31560
tcattaaaaat	ttttaacata	tcaacacttt	taaaagtttt	aaactataat	attgttttaa	31620
agattttcac	atatacaaat	gatataccca	gtggacgtaa	tgaacctgct	ataaataata	31680
aacttaattt	cactggaggc	agtcgtctaa	tcactatgtg	tttatctgcc	attcatttat	31740
ggccaaaaat	gacttggaga	tttaaaatac	tttttaataa	tatgtttatg	cccagtttcc	31800
cctaataaat	ttagtataca	attcttaact	ccagcattaa	aaaaaaaatt	tggttatctt	31860
ttcaattgac	gaaattgtag	atgtttttaca	tttcagtatt	tctgaaattt	taaaatagaa	31920
atthtgcatgt	aagtcggaaa	tgacaaatgg	ataggccagc	accttcttag	cagggtctact	31980
ggaaggcaat	tctgaatact	gaaatatttg	aggcaattct	gtagatttct	tctatccgat	32040
ggttccagttt	cctctgagga	ggccccctgt	gctctaccct	gctaattgctc	aagttcctat	32100
aggtgtgacc	ccactgcagg	ggctgctcag	gccattggccc	tgccagacat	gcaccttaga	32160
cttccaaaat	caaggcaacc	cagagctcct	ctttaccagt	gtaggtaggt	atggtacagg	32220
ctaaacatat	gggttggcca	ggcacggtgg	ctcacgcctg	taatctcagc	actttgggag	32280
gccgaggcag	gaggatcact	tgaggccagg	agttcgaggc	cagcctggaa	aacttagtga	32340
gactcctgtc	ttttttttta	tttttttgag	acggagtctc	gctctgtcgc	ccaggctgga	32400
gtgcagtggc	gcgatctccg	ctcactgcaa	gctccgcctc	ccgggttcac	agcatcctgc	32460
ctcagcttcc	cgagtagctg	ggactacagg	cgcccgccac	tgacacctggc	taattttttg	32520
tatttttagt	agagatgggg	tttcaccgtg	gtcttaatct	cctgacctca	tgatccactc	32580

acctcggcct	cccaaagtgc	tgggattaca	ggcgtgagcc	accgggcccc	gccgagactc	32640
ctgtcttaac	aacaacaacc	tcctctgcta	ggctcattgg	gacacttatt	ctatttttact	32700
gaatgaagtg	tttctaatc	ctagaattgt	aaataaagcc	aattaagatc	tttaaattgt	32760
tgtgattttg	tcttttgaca	cttgaaaggt	aactttggaa	cataattttc	ttattttgcaa	32820
aggaaaaaaa	gccatctaaa	catattttata	gcttggtata	gtctatattt	gcattagagt	32880
ggaagtacgg	ctgtaagtca	ggttactttc	ctcagtggtg	acacataaaa	agtcttgga	32940
tgaggcctta	gttactatatt	ttagcacttg	aatgtgcagt	tctgcctgaa	gcctcctgct	33000
caaaaaacaa	ctcattactg	atccctgagt	tggtgctttc	gtcacagttg	actacgttaa	33060
tttaacaaac	acttatggag	tactttctgc	atgttgagg	caggacagta	tccttgagaa	33120
atltatagtt	caagacagaa	gatgagacac	ctacacacat	cattctaata	aaatccatat	33180
cagaataaaa	aagataaaaa	caaaatgctc	tgacagtaca	gggaaggga	aattcacttt	33240
agcgagggaa	tgtggggaaa	gatgtcaaga	cgtgagcaaa	gccctgaaaa	tgatgcccta	33300
gggaggctga	aggggctgtg	taaacacaag	ttgtggtgac	aacacaaagc	tccatcagac	33360
aactgaccat	aatccaattt	gagtgtagcc	tcagggcctt	aaagggaata	cagtgtcttt	33420
gtcagttaag	cctttacaat	taagaagtta	accggccagg	tgagggtggc	catgcctata	33480
atcccagcac	tttgggaggc	cgagggtggg	ggatcacctg	aggtcaggag	ttcgagacca	33540
gcctggccaa	tatggtaaaa	actcatctct	aaaaaattag	tcaggcgtga	aggcacgtgc	33600
ctgtagtccc	agctactcgg	gaggctgagg	caggaggatc	tcttgaaccc	caggaggcag	33660
aagttgcagt	gagctgagat	cgtgccactg	cactccagcc	tgggcaacag	agcaagactc	33720
tgtctcaatg	aaaaaaaaaa	ttaataaata	aataataaag	ataattttaa	cagcagagag	33780
taggcaagct	ctgaagcccc	acgaagactc	tgggaggccc	aggtgggtgc	cataatgtag	33840
gtgcttctgt	cctgggacca	gcatggagca	agtgatgggt	cactgagaag	gaacacagca	33900
gggaggcaag	ttggacataa	gcaaaaacaa	aagggggtgg	caagtatttc	cctgccacgc	33960
acataagtgg	ccccataaaa	ctcttcctta	catgacctag	atgaaaagaa	tgtatcaaag	34020
tcattcatca	ttgcttcctt	cagagggtcaa	tacaattttc	atgccccctt	ttaatatgtt	34080
tacatccatt	aaagagcaaa	attttagcat	tttctctgtg	acttgcataat	tttccagaat	34140
ctataacatc	cagaaagaat	agtaattccc	ttgcctgtaa	cttaaaatgt	caataaatcc	34200
tcattatatt	taatccttag	gttcaaagtt	gctaagtgg	aagaaattca	agttggagac	34260
gtcattcgtc	tgaaaaaaa	tgattttgtt	ccagtaagtg	aacaaattct	gcttctcttg	34320
ttccttggtc	tccccagcc	cctgtgctcg	gcttttccct	cagggtctcg	gtgttatttg	34380
tgtgttttgt	tttggacagg	ctgacattct	cctgctgtct	agctctgagc	ctaacagcct	34440
ctgctatgtg	gaaacagcag	aactggatgg	gtaagtgtgt	ctcgatgggc	ctgattttaa	34500
gctggccttt	gaaggcacat	tcattccact	gaaatcgggg	cattgtggac	cagacggcct	34560
gatatctggc	cctgcctctg	ccacctgctg	ctgtccctac	tgatctcacc	tttgcgcctc	34620
tgtgaagtgg	agctcttact	acctgogttt	ctccacctct	cagggaaggt	aaaaggatca	34680
gacaggagca	tatgtgtctg	agccctttat	caactgctga	gcagcgcca	gacagatatg	34740
aataatatcg	aggttattat	ctgtgtcaga	gaaaggaaaca	gattttttaa	gtctttacca	34800
ataggcaatt	tatttattta	tttttgagac	agagtctcac	tctgtcgccc	aggctggagt	34860
gtagtggtgc	tatctcagct	cactgcaacc	tccacacccc	ctgggttcaa	acaattctcc	34920
tgcctcagcc	tcttgagtaa	ctgagattac	aggctccagc	ccccacaccc	agctaatttt	34980
tgcattttta	gtagagatgg	ggtttcacca	tgttagccag	gctgggtctg	aactcctgat	35040
ctcaagtgat	ctgcccacct	tggcctgcca	aattgctggg	attacagggg	tgagccacag	35100
cagctggccc	caggaggcaa	ttttgaattc	tccttggtgt	ggttttgggt	actatgctat	35160
cattttaaag	agaatgaagt	tctgtttttg	accagttttc	tgaccagttt	tcaaggcatt	35220
tattgagtgc	tcacgagggt	gccggcactt	tacatattag	ctcattttaa	cctctaaacg	35280
accatgtgag	acgaatatta	ttcgtctgta	ttacccatga	ggaatcggag	gcccgaggag	35340
gtgcagcagc	ccgcccgaag	tcacacagta	agtggtagag	tcgggacatt	gctccctctg	35400
ctcctcgcg	ctcacgctcc	agatgtgcat	acactgcttt	acagagagcg	gaaatcatga	35460
gactgaaaac	tagggctgtc	attgcttcat	agatcaggga	attgactgtt	ggaaatctat	35520
cacacttttt	tttttttttt	ggcggaaaaa	aataacttaa	gccaattaac	cacttcttaa	35580
ttgtacaggc	taattgggtta	aaaaccaatt	aaccacttct	taattgtaaa	ggcttaactg	35640
acaaagacac	tgatttctct	ttaaggcccc	gaggctatac	ccaaattgga	ttatgggcag	35700
ttgcctgata	gagctttctg	ttgtcagggt	ggtctcaaac	tcctgacctc	aagtgatctg	35760
cctgcctctg	cctcccaaag	tgtgtccatt	acatgcgtga	gccgcggcgc	ccgactgttt	35820
atttctcaact	ataaaaactgc	tattattttcc	atgagagatt	ctaaagcttt	acaaagacat	35880
aagatcctaa	catgccctgc	cagaacagaa	tggtgagggt	gagaatgaac	ttccctaggg	35940
aaaattcctg	agtattcgtg	aatcctatat	aaagccttca	gtcgtgagac	ggcagcctca	36000
cccttgagag	cacctgcccc	ggcctgccct	tgtgccacc	cacgacctta	ccttgacta	36060
tggtggggca	gttgggagta	aagctaagac	ttccttttcc	aaataaaatt	gtctttcaaa	36120
aacatgtgat	ccagttatct	actctggaaa	agaatttgac	agaggcgaaa	cagaatttct	36180
gtaacaaata	tgtgttatag	aatcatttta	atgtgattaa	atattagaca	ctacattttc	36240

```

aacagcact ttggtagtcc tagctgatgg taaagttaaa gttaatgaga aggatgtttg 36300
tgggtacctc tgtcctaacc ttcacaacaa caaacagtga agggaaacaa catttcccaa 36360
ggtcagaaat tttctcgact tcaggggata accttttcca aacctgaagt tccaagggtga 36420
acagagtttg aaaatagaaa cagctaatta tttaggcttc atgtccaggt atggctaattg 36480
taacttttga tgattaactt ccactttgaa ctcaaaaatt tgttcattta attcattttt 36540
tccccattcc tttagagaaa ccaattttaa atttaagatg tcacttgaaa tcacagacca 36600
gtacctccaa agagaagata cattggctac atttgatggg ttgtaccaaa catgtcttac 36660
tttgctttta attttagttg cttgggtcaa ttctatttga ttaaaaccag aaagactttt 36720
gtatgtgatt aattatgtga atcttatatt tttaaaagggt tttattgaat gtgaagaacc 36780
caataacaga ctagataagt ttacaggaac actatttttg agaaacacaa gttttccttt 36840
ggatgctgat aaaattttgt tacgtggctg tgtaattagg aacaccgatt tctgccacgg 36900
cttagtcatt tttgcaggta cgttcagagt ttcttgggaa attaatacgc tatgatcttt 36960
aaagacttag aggggattgc ttttctgtcc tttgtccatc aaaacaaaaa gaagagtaat 37020
agcatcatga gctttttttt tttttttttt ttttttttga gacagagtct cactctgtag 37080
cccaggtggt agtgcagtgg cataatctca gctcactgca acctctgtct cctgggttca 37140
agtgattctc ctgtctcagg ctccagagta gttgggatta taggcatgtg ccaccatgcc 37200
cagataattt ttgtattttt agtagagaca gggttttgcc atggttgcca ggctggcctc 37260
gaacccctga cctcaggtga tccgccaac tcagcctcca aaactgctgg gattacaggc 37320
gtaagccacc atgcctggcc aagaagagta attttatttg tgagctagtg aattgatttt 37380
tcccaactga tgactacatt gaattttcca ttttcagggt ctgacactaa aataatgaag 37440
aatagtggga aaaccagatt taaaagaact aaaattgatt acttgatgaa ctacatgggt 37500
tacacggtat ttatttttca tctcagtaga tctctcatct agattgctgt cttttgcact 37560
aatattatcg tatgtttttc taatacaaaa tcttacctct ttaggtggaa tagaaaaatt 37620
attgggcact ccaagcttca aatgcaggaa gaagggattt ttttttccag aaatgcctta 37680
ctttttctca gaaatgccac actttttaaca ggagaattcc cttgggaagg gaaatttcgg 37740
ttgtagggtg ccctgagtgc tttgatgacg ggaactggaa aaccaggaag ccctagataa 37800
attagtgaag ctggactcct gaagtcaatg tagggttgat ttcatgtctg ttactttccc 37860
atagaggcag ttctcttaga agcaagcctc cccagcacc cccaacatat actgtatagc 37920
tccaaataca aggcaaggct aaaaataaag tatgtcgagg aactcaaga ccaactccag 37980
gtttgatgat tctctggaag gactcatagg cctcagcaca tagtcgtatt cacagctgtg 38040
agtcattaca acaaaaggac acagagcaag atcaccaaag actcatggag caaagtgcaa 38100
aggaaaccag gcacaagctt ccaaaagtcg gcgctcctgc cccactccc caccaaacca 38160
cacacacaat aggcacttaa ttctcccagc agcaattaat gacaccacat gtgaaatgtt 38220
gtctatacca gggaagctca tgagagactc agtgtcaaag gtttttaaca aaaaaactct 38280
agactcccca aaagaatgca gatggtcagc ataaaccatg ctgtttgcac agttaggcat 38340
catgagtttt tttattatta ttattatttg ttttttttg agattgagtt tcaactctgt 38400
tgcccaggct ggagtacaat ggcatgatct tggctcactg caatctcctg ctcccagggt 38460
caagtgattc tctgcctca gcctcccaag tagctgggat tacaggcacc tgccaccaca 38520
cctggctaatt ttttgatttt ttagtagaga cggggtttca ccatgttggc caggctgggtc 38580
tcgaaccctt gacctcaagt gatctgcctg cctoggcctc ccaaagtgtc tggattacaa 38640
gcatgagcca ctgcaccggg cccatgagct attcttatca gagaataaaa aataactggg 38700
aatcctcca aacatctaag ttaccagata ccagcccagg gccaaccttg caagccggcc 38760
ttcggaggaa gcagtctcag acctgctatg tttgctcttt tctgcccacg tggtgacccc 38820
aaatattaag cactccttct atttcccaat gaaaaatttt ttcaagtatt taattcaatt 38880
tgaatgcata cttctaaaac ttattctttg attgcatata catgtttaaa atcacataaa 38940
aataataatt taagaaacat tttccctgct tttctcattt catgaaaatt gtatttgaac 39000
ttttcacatt catctttggt gtcattggtt tggttatcca ctctcaaaga gcctgtttgg 39060
cactctgctc tttccacgac aaagtgttga gatatagcac ttttggactc catgtccaga 39120
aatttaaat tgtctctgga aattttattc ccacttgcca atctccaagt accactagga 39180
tggttgactt tttattcctt ccataaatat atgctcataa cttctacaac ataacttta 39240
tcataattgct tcttaagtga tcttatttta caatgtcatg caatacttat gacattacac 39300
cttaaggaat aatcgcccaa atataggtga aattttcttg ccctgaaaaa aaaattctgg 39360
ctgggtgagg gccacctgta atcccagcag tttgggagac tgaggcatgc agatcacttg 39420
aggacaagag ttcgagacca gcctggccaa catggtgaaa ctgctctcta ctaaaaagac 39480
aaaaattagc cggccttggt ggcgctgcc tgtaatccca gctactcagg aggctgaagc 39540
ataagaattg tttgaaccag ggaggtggag gttgtagtga gccacaatgg caccactgca 39600
ctccagcctg ggtgatacag tgagacgctg tctaaaaaaa aaaaaaaaaa aaaaaaaaaa 39660
aatctgttga atatcttcta taagcattcc agttttccag ttcagccttg ttggaagttg 39720
ttcatgcta agtaagatat cttcccaaaa cagtatgtta ttgttcaaag taaacgtaat 39780
tgagaggaat ccctgtaata taagattctt caaggatttg aatataagac accaccttct 39840
ctttggagag ataatttttg gaacaaaacc ttaccttcta tgggagatgt aggatacatc 39900

```

```

agtcaattgc agcaatcaaa tagactttca aagcgttatg atagtgcgtg ttttatttga 39960
catatattat ttttcagact actaaattct caatcatatg aagtattgag taaggttaat 40020
tagcatctag gaaatgcaag aggttggaag tccatcttca gaatgcattt aaatgttttc 40080
tgtcttctag atctttgttg ttcttattct gctttctgct ggtcttgcca tcggccatgc 40140
ttattgggaa gcacaggtgg gcaattcctc ttggtacctc tatgatggag aagacgatac 40200
acctcctac cgtggattcc tcattttctg gggctatatc attgttctca acaccatggg 40260
acctatctct ctctatgtca ggtaaggctg tcctctctgg cattttgctt taatggaaga 40320
atgttgtagc ttctcccaac atagtgcctt catttctagt gatcactggt tcaaagggtca 40380
caaagaacag gtaagaaaat cacgttcatt tcagaattga gggtaagaga ggaaaaggaa 40440
attaacattt gagtatccac tctgtgccag gcacctttta tctcatcctg tttgcagata 40500
agggtagagg aatttcaaaga tcgattgcta ctctgtagt cattgtctta ttagtaagggt 40560
tcccttctca ccgggttcca aagcccagac ttcagaaagg gactgggagg aggggaagat 40620
ttagcagggtg atggaaaaaac ttagttttcc cttttggaag tggctctcac ctcttatctg 40680
agcctttatt atcatctgcc acacccaagg tggagaactt gtgctttccg gccactacct 40740
cctagtagga aagaaactcc ctgtccttca tcaacctctc aaaatgttct ctttttctac 40800
tcaaactctca accacaacaa caaagtcagg ggcatatctc cgataagtgg taagcagctg 40860
atttggtgat acttcttcat tttttacttt tacttttttt tttttttttt ttgagatgga 40920
gtttcactct tgttgccag gcaggaatga aatggcatga tctaggctca ctgcaacctc 40980
tgctcctggt atccaagcag ttctcctgcc tcagcctcct gagtagctgg gatcacgggt 41040
gcccatacc atgtctggct acttttttgt attttttagt gagacagggt tcaccaaggt 41100
ggccaggctg gtcttcaact cctgacctca ggtgatctgc ccacctcacc tcccaaagtg 41160
ctgggattac aggcattgag caccacaccc ggcttttttc tctttttaat atgaaagttc 41220
actgcccttg gccaaactga ctttgagacc tttttgggag ggatagtgtt ttggaataaa 41280
cccagcagcc agagttcatt cttagttctg ataaagaata gccagagac ataggaatca 41340
catacacacc tataattaga ggcatttatt ttattttagt gtcattatat gtgcatttgc 41400
tttattttta atttgattac atgtagttac tgttgttctt ttaacatgaa ggaaagccct 41460
ggggcagcca tctgttccac agctactttg agaaaaaccg agttgagtgt tacctttgtc 41520
aagggaacta ttacatagat aattttgcct aaaaccatca atgtgtatta taaaagaaac 41580
tgtatacata attttatata aaggatatgt atgtgacaaa tacgatttct tttttcttgg 41640
agataaagggt ctttgaaaa catgctggag caagtctctc cagatagtat ctctgctttg 41700
acttcaaacc tcattcagaa taaacccaac cccaggggcc caagtgtgat ctggtgctca 41760
gccttccact ccgcccgtac cttctgcacc tcagcccacc tccctgggct tctgccactc 41820
tgccccttg atattcttcc tgcacagggc ctttgtccct gctcttttct ctgccagggg 41880
cattccttac ataggtatct atctgtctcc ctttctacta aaaggccttt actcagacaa 41940
caccttatta cctgacctt tctgactca ttctgtttct gaccttct ccttcttggg 42000
gatcttcata tctcttacc ttgctttgct ttgatttttg tttgtttgtt tgttgtttgt 42060
ttgttttgtt ttgagacaga gtcttgcctt gtttccagg ctggagtga gtcgcgcgat 42120
ctcagctcac tgcaacctcc acctgctggg ttcaagttag tccctgcct cagcctcctt 42180
agtggctgga attacaagta catgccacta tgccctgcta atttttgtat ttttagtaga 42240
gacggggttt caccatgttg gtcaggctgg tcttgaactc ctgacctcat gatccgcccc 42300
cctcggcctc ccaaagtgtt ggaattacag gcgtgagcca ccacacctgg cccctgctt 42360
tgattttctg cagagaactt tcacctctga tagagcctct ctttattaat ttatttgtct 42420
gtctctacta gaaagtaacc tccttaagag aaaggacttt gttttgttta cagacatgtc 42480
ccctgcacct agaattggtat ctggtacata gtaggcactt aggaaatact tacggaaggg 42540
agagaagtgg ggagagcatc atttttccat ctgtttaact tgttaaggac ttcttggcc 42600
cacctaacaa ttgctggcta tgtaaacagc ttcttataaa ctgagatagg taatgtccct 42660
tatagtttta aaattcagat gatcctttta taatatctta ttttggatat tctataacct 42720
tatcataatt tagggatcat gatttggggt atttgcaaaa agccttttgc cctgtttgag 42780
agcacagtgg agtctgtacc ctagggtact ctcaactcct ctgccctacc acttagggca 42840
aagggtgaaca tggccattcc agtgcccctg ggtgctatgg ggaatggggg aagagtcaag 42900
cttgcctgtg ccactgctct gtctgcagtg ttgctgtgtc ttccattctg ctgggctgtg 42960
tattctgaac atgggtgcct tggctaaatg tgcccaggag tgagtgggaa atctcactga 43020
gcaattttga gtggaaatta cttgtctaaa atcagcttga cctgaagcc tgagaatgat 43080
gcatgtgggt aggagaaacc agaggctgag tgcattgggt tgtctccttg tagagggtt 43140
agtttgggct gatataacaa aagaccttgc aaatttattg ctcagagttc tggaggctgg 43200
gaagtctcaa atcaaagcat cggcagattc agggctctgg aaaggctcac tttctgcttt 43260
ataggcacag ccggtgcctt ctagtatgt cctcgcatgg cagaaggggc aagcaagctc 43320
ctttgagcca ctttaataag ggcactaatc ccattcataa ggggtggagg ctcatgacct 43380
aatgaccttc taaaggcccc acctcaatac tgttgaattg gggattgggt ttcaacatat 43440
gaatttggag ggggattcta acattcagac catagcagta aataagcagc ttgctctcgt 43500
ctgtacaatg agaataaaat ctctactact tgccactcgt atccgagctc tctacggaaa 43560

```

ataatcttct	gtcttcctag	cgtggaagt	attcgtcttg	gacagagtca	cttcatcaac	43620
tgggacctgc	aaatgtacta	tgctgagaag	gacacacccg	caaaagctag	aaccaccaca	43680
ctcaatgaac	agctcgggca	gatccattat	atcttctctg	ataagacggg	gacactcaca	43740
caaaatatca	tgacctttaa	aaagtgtctg	atcaacgggc	agatatatgg	taagtgggaag	43800
ccgtcactca	ttttctgggt	gagtggggct	gcctgccgtg	tgcagggtcat	tacttggact	43860
atagcctgtc	tcctggcatt	gctgggtgcc	tctcgatgca	gagtcctgct	gctagggcca	43920
ttctccagct	aagcaccaga	ggagcaccat	ggacagcact	ggggacacat	gcgtgggaga	43980
ggacagtggc	cagaagtggg	ctcacagcca	ggcgtggtgg	ctcaggcctg	taatcccagc	44040
actttgggag	ggtgaagtgg	gcagatccca	agagggtcagg	gatttgagac	cagccttgcc	44100
aacatggcaa	aaccccgctc	ctactaataa	tacaaaaatt	aaccagggtg	ggtgggtggcg	44160
cacagctata	atcccagcta	ctcgggagac	tgaggcagga	gaattgcttg	aacccgggag	44220
gcagagggtg	cagtgaagctg	agatcacacc	actgcactcc	agcctggtga	gagagcaaga	44280
ctctgtctaa	aaaaaaaaaa	aaaaaaataa	aaaattagaa	gtctcattac	tatatgatct	44340
agcaattcca	cttcagggtta	tatactcaaa	agaactgaaa	caggggctca	aagagatatt	44400
tgtacaccta	tgttcatagc	agcattattc	acaatagcca	aaagatagaa	gcaacccaag	44460
cgttcatcaa	tggatgaatg	gataaataaa	atgtgggatac	gcacaatgaa	atattattca	44520
gtctaagaaa	ggaaggaaaa	tttgacacat	gctacaacac	agatgaacct	gaactcgttt	44580
atgccagagg	ttgcaatttt	ttgaattttt	gcaatcagaa	cttggtgatg	accttgagca	44640
gtaggatata	aataactccc	acatgcttag	cgttccaata	atggaacact	aggcataaat	44700
gggttaagga	cattatgcta	agtgaagtaa	gccagtcaca	aaaggacaaa	tggtgtataa	44760
ttctacttat	atgaagtact	tagaataatc	agatttatag	agacaaagca	gaatgatggg	44820
taccaggggc	tggagtccag	ggaattggga	gttactgttt	aatgggtaca	gagtttcaat	44880
tttgcaagat	gaaacagctg	cacaacagtg	tgaatatact	tgatgccact	gaactgtatg	44940
cttaaaagt	gttaaaatgg	gctgggtgca	gtgtctcatg	cctataataa	caacactttg	45000
ggaggtcaag	gtgggaggat	tgcttgaggc	ccagaattct	agaccagctt	gggtaacaaa	45060
gcaaaaattt	ttaaaaatta	gcagagtatg	gtgctgcatg	cctatagttc	cagctacttg	45120
ggagactgag	gcaggaagat	cccttaagcc	tgggagttga	aggctacagt	gagccaagat	45180
cacaccacag	cactccagca	tggctaacag	agcaagaccc	tgtctcaaaa	tagcaacaac	45240
aaaaattgg	tgactgggtg	gcagtggctc	acgcctgcaa	tcccagcacc	ttgggagggt	45300
gagtcaggca	catcccttga	gcccaggact	ttgagaccag	cctgggcaac	atgacaaaac	45360
cccatctctg	gccgggcaca	gtggctcatg	cctgtaatcc	cagcactctg	ggaggcctac	45420
gtgggtggat	cacaagctca	ggagttcgag	accagcctgg	ccaatatgat	gaaaccccat	45480
ctctactaaa	agtacaaaaa	ttacctgggc	gtgggtgggtg	atgcctctag	tcccagctat	45540
tcaggaggct	gaggcaggag	aatcgcttga	acccgggagg	tggagggttg	agtgagcaaa	45600
attgtgtgtg	cctgtagtct	cagttacttg	agagggtgag	gtaggatcac	ctgagcctgg	45660
gtacgtcgag	gctgttgttg	gctgggtttg	caccactgca	ctccagcctg	ggtgacagag	45720
tgaacccctg	actcaaaaaa	atcaaacaaa	aaatcggtta	atatggtaaa	ttttattatg	45780
tgtatttcac	tacaattggt	tgttttcttt	gttgtttttg	tttttgagac	agtgtctcac	45840
tctgtcacca	ggctggagtg	cagtgggtgc	atctcagctc	actgcaaccc	ctccgcctcc	45900
caggttcaca	tgattctcct	ccctcagctt	cctgggtagc	tgggattaca	ggcacacacc	45960
accatgcctg	gctaattttt	gttgttgttg	ttgttgcttt	ttttagaga	tggggtttca	46020
ccatgttgac	cagactggta	tcgaaccctt	gacctcaagt	gatccatctg	cctcagcctc	46080
ccaaagtgtc	ggggttacag	gcgtgagcca	ccacacccgg	cctacaattg	tgtttttggt	46140
tttgtttttg	tttttttgag	acagagtctc	actctgtcgc	ccaggctgga	gtgcagtggc	46200
acgatcttgg	ctcactgaaa	cctccacctt	ccgggttcaa	gtgattcttc	tgccctcagcc	46260
tcccagtag	ctgggactac	aggtatgaac	caccattccc	agctaatttt	gtatttttaa	46320
tagagatgga	gtttcaccat	gctagccaag	ctggctctga	actcctgacc	tcagggtgatc	46380
agcccatctc	agcctcccaa	agtgtctgga	ttacagggtg	gagccaccac	acccagccaa	46440
ttgttttaaa	agttgatttc	agttctaatt	ttctgaaaca	tttagaaatt	taatttttatg	46500
taaattttaga	gataatatta	aggctaatac	tagattcaaa	tagagtgcta	ttttaaatat	46560
acttaatagc	acaattgttt	aaaatgatat	aggacatgac	atatataact	cctacttgta	46620
ggcaccgtga	gtgccttttc	tcataagaag	tatcagtga	gatggtaggg	cactgagggg	46680
ctgaggacgt	ggctcacata	tgtgagtcct	tctgacttgg	gagaggtaaa	gcattttcaa	46740
ggatatgatt	caggccccta	ggagaaggta	gtggagaggg	acagccactg	gtattttgaat	46800
atctagacca	ggggtcatct	aacgttttct	gtaaagtgcc	agataataaa	tatttttagcc	46860
tgtccaggcc	gtatatggtc	ttaccaccat	cactatataa	gcaaagccag	gtaaggagggg	46920
gcctctggac	ataggtgtag	aatcaatttg	ttttgtcctg	tttgtttctc	aggggaccat	46980
cgggatgcct	ctcaacacaa	ccacaacaaa	atagaggtaa	gacctttaag	ccgaagaatc	47040
gtttgggatg	ctggggatgt	caggggtcca	gcagggccat	gcttcctttg	aagggtctagg	47100
gaagactctt	tcgttgcttc	ttccctgctc	ctgggtggtg	cccacagtcc	ttgggtgtcc	47160
ttggcttgga	gacttgga	cacaactctg	tgtctctgcc	tttgttgtca	cgtgggtgtcc	47220

```

cccgtgtgtc tgtgtgtctc tgtccacatt tccccttcta ataaggatac caatcattgg 47280
attaggacct accctaattg agtatgacct ctttttatct tgattacatc tgtaaagacc 47340
ctgttttctaa ataaggtcac attcatagggt accagagggtt agaatttcaa catatctttt 47400
gggggaacat agtttagtcc accacaaagt accttttgac taggcatggt ggctcatgcc 47460
tgtaatccca gcactttggg aggctaagtt tggcagatca attgagtcaa ggagtttgag 47520
accagagaaa ccccatctct acaaaaaaat acaaaaatta gccagggtatg gtggtgcatg 47580
cccgtaggcc catctactca gaaggattgc ttgagcccag gaggtggagg ttgcagagaa 47640
ctgagatcaa gccactgcac tccagcccg gtgacagagt gagaccata tatggtcata 47700
tatgtttcca aaaaaaaaaa ggggggggagc tttttattta agacagttgt gaggctcttg 47760
acatttaaga atgtgctaaa atcctaaggt ggtttttgca taattgaaac cttgcctttg 47820
aagaaaagtt catgtcattt gttaagtcaa aaatatatta taaaatcata ttttgttttt 47880
ctccatttct ttcagcaagt tgatttttagc tggaaatacat atgctgatgg gaagcttgca 47940
ttttatgacc actatcttat tgagcaaatc cagtcaggga aagagccaga agtacgacag 48000
ttcttcttct tgctcgagc ttgccacaca gtcatggtgg ataggactga tggtgagtgt 48060
ttctctggca tctcaggcat tagagaccag gttttttgtt tccaggtaac tcctgcttat 48120
ggctcaaatt catgtcaagt agtacacaaa tctgtctcat attagaatgc agtgaatatt 48180
tctcagcact taccactaga tggtttatgg aagagcaaag taggaaacaa gcttcttgct 48240
cctgaaaatt tacacttatt catagctata gctccagggtg ttttttttct actttgcaa 48300
tgaaatcttg ttgaaagaaa tgattggtac ttgaactatg atagaagaaa ctaactttt 48360
ttagcacatt tattactgag cattgactga gagtgaaga tcaagcttta tctgtatcag 48420
aaatggactt tgaacttgac taatcttttc taccaaataa tttcagatat atgctcttat 48480
ttactagatt ctgttatagt ttgggtttga aataatatga gcctcagcct ggatctcttt 48540
aaggtgcctt ttccatttta aaggagcata attaattgtga atttcatggg aacaagccag 48600
aatggcttgt aggttccttt gcagaatcct tcatgagcgt ttgtgccagc tttgtcacag 48660
caagtttgtc ctgtatcaag gaaagctagt ctttttatca caaatggaca taatgataaa 48720
ttatatagac acacatgcac tttatagaaa gagcaaaaagg agttcttttg gtgttctgt 48780
aataaagcgt agtctgcctt cacttcattc cctcacttca tccacttcac tacatcttcc 48840
actttttact tcagtcagtg cggcatacat aagtccctct cttttctcaa cttaatgtt 48900
tcatatgtag caggtatgaa atttccagag aaggaatatg cataaaaact aaatgtgtag 48960
gccaacgctt ggtggctcac acctgtaatc ccagcatttg gaaggtcgag gtgaatggat 49020
tgcttgagct caagagttca agaccagcct gagcaacatg gcaaaaactcc atctcacaa 49080
aaaatacaaa aaattagcca ggtgtgatgg gacatgcctg tagtcccagc tactcagggtg 49140
gggatcgctt gagcccagga ggtcaaggct gcagtgaacc atagtctcac cattaccctc 49200
cagcttcggt gatggagtga gaccctatct caaaaaaaa caaaaaaacac ctaaatgtat 49260
agaagctgta catgatacct ttcagcaagt ttcaaagaaa cccatttttc aaggatgaat 49320
ctaataattgc aatgaagcaa ggtaacagag ttcagattag ggtggataca tggaaggggt 49380
tatcagcaga tgatgtgggg aaggatagaa aggggcgata ccaggtcctg aatcatggaa 49440
gcagaggtct aagtctattt gactcaccaa gccaatttta cccaggcaat aagcataaag 49500
tatgatatta caaagtcacc tggttctctt tggttttgac tcataagcac aattattgta 49560
ctcttctctg ggtacgtgat aggtttttaa gggctaactg gccaaacttag gcaaatgtaa 49620
attcatcctg ttgtccctat tctatctttc cccagtggga tattatggga agagccctgg 49680
actacatgct agagatgagt cagcccagtc tgggtccctc tctgagaacc accttctctg 49740
gtgtttagt aagaaggttg gatgtacaaa gttccttcca gcagggttg ggcgggtggc 49800
ttacacctgt aatcccagca ctttgggagg ccgaggcggt cagatcatga ggtcaggagt 49860
tcaaaaccag cctggccaac atggtgaaac cccatctcta ctaaaaatac aaaacattag 49920
ccaagcatgg tggcatgtgc ctataatccc agctacttgg gaggtgaga caggagaatc 49980
gcttgaacct ggcaggcaga ggttgagtg agccaagatc acgccactgc actacagcct 50040
gggcaacagt gcaagactcc atctcaaaaa aaaaaaaaaa taacacaaag tccctccagc 50100
ctgacatacc gcagctcttt gtccactgtc agctgaggtc aagggttgta cgaatagaga 50160
catgttggct tctagtgcag gagcttagag aaagaaattg ctttcggtt ttaaccataa 50220
agtaccagga aaggatccct tgaaaggagc cttggggact acacctcaa gttttgttt 50280
gtgtttttga gacagtcttg ctcttgacac ccaggttgg gtgcaatggc atgatctcgg 50340
ctcactgcaa cctccacctc ccaggttcaa gcaattctcg tgcctcagcc tcctgagtag 50400
ctgggactac aggggcccac caccagccc agctaatttt tgtattttta gtagagatgg 50460
ggcttcacca tgttggccag gctggtctcc aactcctgat ttcaggtgat ctgcccacct 50520
caacctccca aagtgttggg attacacgag tgagccaaca caccctgcca catgcattt 50580
ttttctgcta ctctgtagt aattagtga actcagctac tgaaaaacac tgttcattag 50640
cttacggttc tgtagggcag aattctgagc atggcatgac tgggttcacc gctcagcatc 50700
tgactaaaaa caagtttggg ccatgttctc atctggagct cagtgtcttt ttccacgttc 50760
acgtgtggtt gcagcaggat tcagttctct gtggtttag aactgaagtc cccatttctt 50820
tattctttat caactgggtt gccctccact cctagagact gtccctcttc cctgccagct 50880

```

```

ggccaacttc accttcaaag ccagcgggtgg agaactctccc ttaaattgaa ccttttttcat 50940
gctgctccaa gtctctcccc aagaagagtt ctgtcctaag ctcatctaata tcagtcagga 51000
acacctggat aatctatttt aaggtcagct gattaggatc gcacatctgc aaattccctt 51060
cacagcagta cctagattag tgcttgattg agtaaattggg agaaagtga tgtacagcac 51120
tgggatggga accttgaggc cattgcagac tcccgctgc acagaggta tgtgagagca 51180
gaatgtggaa ggcttggaag ccttcacttc acctggagggt tctgagttaa tgatcagaga 51240
gcttgtttca ggagttttgc gcatcacggg tgtgagagtc tggagcaggt aggactgga 51300
gattggcaca gaggctgaag gtttgcattha gtatgggggtc tttgggaagg ataacaaagc 51360
catggatgtg ggagacactt ggcaaatcat ttaaagggggg tgagaggatt gaggagaaaa 51420
agacatctga gagctagggtc ttgtttttgt gagcgtgtgt gggtttttttt ttgtttttgtt 51480
ttgtttttgt ttgtttttgt tttgagacca agtttctact ttattgcca ggctggagtgt 51540
caatggcatg atctcggtc actgcaacct ccgtctcccg ggtttaata attctcctgc 51600
ctcagcctcc gagtagctgg gattacaggc atgccccacc acaccagct aattttgcat 51660
ttttaataga gatggggttt ctccatgttg gtcaggctgg tcttaaaactc ccgacctcaa 51720
gtaatcctcc agccttgacc tcccaaagggt gctgggatta cagggtgtgag ccaccacacc 51780
cagtcctttt tttttttttt tttttttttt gagactgagt ctgctcctg ttgccagggt 51840
tggagtacag tgccgcaatc ttggctcact gcaacctctg cctcccagggt tcagggtgatt 51900
ctcctgcctc agcctcccgga gtagctggga ttacaggcgc ccacacaaaa ccctggctaa 51960
ctttttgtat ttttagtaga gatggagttt tgccatgttg gccaggcttg tcttgaaactc 52020
ctaacctcag gtgatccacc cgctcagcc tcccaaagca ctgggattac aggtgtgagc 52080
caccatgcct ggccaggtag tttattgtca cttaattaga gtgagccggg tgcagtgtt 52140
cacgcctgta atcccagcac tttgggagtc tgaggtaggc ggatcacctg aggtcaggag 52200
ttcaagacca gctgaccaa tattgtgaaa cccacctct actaaacata caaaaattag 52260
ctgggcgtgg tggcgggcac ctgtagtccc agctacttgg gaggctgaga caggagaatt 52320
gcttgaaccc gcgaggcgga gggtgctgtg agccgagatt ttgccactgc gctccagcct 52380
ggcgacaaa gtgagactcc atctcaaaaa gaaattagag tgaatcagct gaggcagttg 52440
tgaaggagag aagaaagggtg catttagctt tctctgccac cattaccctg aagctaggga 52500
atcaggttga tgagaactga gagggtgggt ttgtggtttg agcatctttc tttgattaca 52560
tcaatttcat gagccacaaa ttagtgtgtg aaagaaaaag aaggtctttc tgggtgcctc 52620
taaattgtgc ataaataaag agttttctta ggaagggttc tttgtttttt tttgtttttt 52680
tagtttgttt ttacaccttc aatttttatt ttaggttcag gggatacatg tgcagtgtt 52740
ttacatgggt atattgcatg atcctgaagt ttgggttaca attgatcca tcatccaggt 52800
agtgaacaa gaacttaata gttagttttt cttttctttt ttattctttt ttttttttga 52860
gacagagtct tgctctgttg ccaggctgg agagcagtg cgcatctcg gctcactgca 52920
agctctgcct ccggtgttca tgcattctcc tgcctcagcc tcccaagtag ctgggactac 52980
aggcaccgc caccatgcct ggctaatttt ttttgtattt ttagtagaga cagggtttca 53040
ccatgttagc caggacgaaa ggtcagcctg ctgcgttggc tgggaattga agtcgggtca 53100
attgcttga aggcagctat gctcaccact ataccatcaa caccacactc ttttcttttc 53160
tcttcttttt tttttttttt gagatagaat ctcgaaactat cgctgggct ggagtgcatt 53220
ggtgtgatct cggttcactg caacctctgc ctcccggtt tatgcgattc tctgcctca 53280
gcctcccaag tagctgggac tacaggcacc cgccaccatg cctggctaatt tttttttgta 53340
tttttagtag agacagggtt tcaccatgtt agccaggaca aaaggtcagc ctgctgcatt 53400
ggctgggaat cgaagtcggg tcaattgctt ggaaggcagc tatgctcacc actataccat 53460
caacaccaca ctcttttctt ttctcttctt tttttttttt tgagatagaa tctcgaacta 53520
tcgcctgggc tggagtgcaa tgggtgtgac tcggttctact gcaacctctg cctcccgggt 53580
ttatgcgatt ctctgcctc agcctcccaa gtagctggga ttacagggtc ataccaccac 53640
acgtggctaa ttttttacct ttttagtaga gacggggttt cactatgttg gccaggcccg 53700
tctcaaactc ctgaccttgt gatccaccgg cctcagcctc ccaaagtgtc gggattacag 53760
gtgtgagcca ccgtgccctg ccctaatagt aagtttttca acacttgttg cctcctctcc 53820
ctcctttctc ttgaagtccc cactatctat ttttgagtc tttatgtcca tgagtacca 53880
atgttaagtg agaactatgt gtaggtatgt ggtcttctgt tcctgagtta attgcttag 53940
gataatggcc taatctctat tgtgacaaag gacatgattt tgttcctttt tatggctgca 54000
tagtttttta gtccaagtgt cttccagcag tcataagggt ggaatttggg ccaagtcact 54060
gacgttcttc ccatctctgt tagtctgcaa ttctgtgatt ccattatcag aaggtaatgg 54120
aaaacatttt tttttcttta atgataaaaa tatcaagggt tttgctctag atatgagtgt 54180
cttacttgtg ggaactttac cactttttat tattttgttc cttttctctg ctggaaatgc 54240
gtttgctgtc aatattatgc catatatcgc tgtgccaaact taagttgccg aagggaagg 54300
ctttgttctc accgctgctg atttgcctc gggttaaata tttgccctct agcatttgta 54360
tatgattgct agatggccgg atttaggaag tgcgtttata gcttctagt aatgactttc 54420
tgagtgaaca aatacagaga gaccctaagt gtcactttta attattaatt aggaagtgt 54480
taatattgac ttaaaaagtg aatcctctga gccaatgtgt aagggaaggaa ggaagggtgt 54540

```

```

tttagctctc tctgccaccg ttaccccaga gcaccaacca ttccaagtga ggctgctcat 54600
gcatctgtgg ccttcatcct ggtcaaagta ttttgaaaaa ctaaagtctc tttctgtcca 54660
aagtcactctg gccacggaaa tgcttttcct tctattttga gacaaaataa cttagagtaga 54720
aaaatagaag atcttgggta ggcagagtat tttttaaact ttttattgaa gtacaacatg 54780
tgtatacaga gatatgtacg tatcataagt atataactca atgaattttc acaaaccaat 54840
actcttgtaa tgagcaccga gattttttaa aaagaacatt atcaatcccc ctagaattcc 54900
ctttacattc ctttccagtg attacaagaa aagtactttc ctgactacga ataacacagg 54960
ttagctctgt cagttttttg gcttatttca gtggaatcat gtagcatatg tactcttttg 55020
tgtatctggc tgtgagattt attcctcttc ttattgggtt tttctttttt cctaaaagag 55080
actgcatctt gctctgtcag ccaggctgga gtgcagtgga atatcaaagc tcactgtaac 55140
ctcacactcc tgggctcaag tgatcctcct gcctcagcct cctgaatagt tgcaattata 55200
ggcacgtgcc actgaacctt gcttattcct attgttgaaa tgtagttgtg aatagaagac 55260
aattttccat tatttaactt ttaaacttta agatatcgga tagtgatcaa actaagggtg 55320
gttggtttgt ttcaactttt ctttctttct tttttttttt tttttttttt gaaatggagt 55380
ctcggctctg caccagggtg gagtgcagtg gcgagatctc ggctcactgc aacctccacc 55440
ttctgggttc aagtgattct cctgcctcag cctcccgagt agctggaact ataggcactg 55500
gccaccatgc ctggctaatt ttctgtgttt ttagtagaga cagagtttca ctgtgttagc 55560
caggatggtc tccatctcct gacctcatga tctacctgcc tcagcctccc aaattgctgg 55620
gattacaggc gtgagccact gcacccagcc tgtgtgggtt ttttttcttt ttttttttaa 55680
taaggagaat atagctatgg taaagaaaaa atagcctggg caacatgggtg agatcctgtc 55740
tctacaaaaa atacaaacat tagctgggag tgggtgatgtg cgcctatagt cccaactact 55800
caggaagctg aggtgggag atcacttgag cctgaagcga tcaaggctgc agtgagctga 55860
gatggtgcca ctgcactcca gccttggtgc cagagtaaga ctgtctcaaa aaaacaaaaa 55920
agaaagaaag aaagaaaaca tactttttta gaggggaagt aaactggtac aaccttcttg 55980
gaaaacaaat tagtattgta taccaatgag ttttaaaatt atcagtgttc tctggctcag 56040
tattttccta ataggaatct gctcttagaa aataagccag gggcccaggg gcagtggctc 56100
atgcctgtaa tccgaacact ttagggactg aggcaggcga atcacttgag tccaggagtt 56160
tgagaccagc ctgagcaaca tggtgaaacc ccgtctctac aaaaaatata aaaaattagc 56220
cagggtgtgt ggcgtgtacc agtaatccca gctacatggg aagatgaggt aggaggatca 56280
ctgagcctgg ggagattgag gcttcagtga gccatgatcg tgccactgca ctgcaacctg 56340
ggcaacacgg tgagaccctg ttccagaaaa acaagaaaga aagagaataa gccagggtgag 56400
gtgacatgag cctgtagccc tagcgactca ttaggctgag gcagaaggat cacttggggc 56460
ccggagatca agagcagcct ggacaacata gggagacctc tgtctctaaa aagaaaaaag 56520
aaacagaaaa atctttacac acatacaaaa ggggtattaa agtgtgactt tttgagagta 56580
aaaaaatttg gaaattagt gtctgtaatg ggaaaatgat aacatattta catttgttca 56640
aatgtttata aagaatttaa aaaggatgg caatatgctc agatacagca ttaaaataat 56700
caggatgtaa atgtatattc agcttgatag aaacaatttc agatacagac attttaaaag 56760
gcactggagg gaatgataaa atgtcaacac ctgttgtttc tcctgtggat ggtgggatta 56820
tggaattttt cctcattctt ccaccaatgt ttctttttta gtttatatta ctgtttataa 56880
gtcaagataa aacaaagaag ttttaatctt ggcataaccc ttccaagtca atgactcgtt 56940
ttcctgggga tgttttgggc tttgcagccc atctgacccc cacaggagcc tcagcagagg 57000
cctcaacaat gagctctgca tttgttttta cagcttttct gggatttctc tcgcttccct 57060
gttaggtcag ctcaactacc aggcagcctc tcccgatgaa ggtgccctgg taaacgctgc 57120
caggaacttt ggctttgcct tcctcgccag gaccagaaac accatcacca tcagtgaact 57180
gggcactgaa aggacttaca atgttcttgc cattttggac ttcaacagtg accggaagcg 57240
aatgtctatc atttgtaagt cccctcaga gtctgtctat gaatcgctca ttagatgtt 57300
gcttgtgccc attgtattga gtggcatcag gataaagcag ccagtgaag agctacttgg 57360
ctcctgggag atttctgcag ctttactgaa actggtattg ttggctgggc gtgggtggctc 57420
acgcctgtaa tcccagcact ttgggaggcc gagggcgggtg gatcacgagg tcaggagatc 57480
gagaccatcc tggctaacac ggtgaaaccc cgtctctact aaaaatacaa aaaaaattag 57540
ccgggcgtgg tggctggcac ctgtagtccc agccactcgg gaggtgaga caggagaatg 57600
gcgtgaaccc gggaggcaga gcttgcagtg agccgacatc gcgccactgc attccagcct 57660
gggcgataaa gcaagactcc gtctcaaaaa aaaaaaaaaa agaaactggg attgtttct 57720
tcattcttca ctgtgttccc tactcaaagg ggtagccaca gtatctctga atcttgcaaa 57780
tgtgtgtgac gttctttttt aatccctctc ttttttttct tttttttttt 57840
tttttttgaga tggagtcttg ctccgtcacc caggagtgcg gtggtgcgat ctcaggtcac 57900
tgcaacctcc gcctcccagg ttcaagcag tctcctgcct cagcctcctg agtagctggg 57960
attacagctg ctgacattct ttaaccacgt gggctgccag atgctgaatc tggggcagca 58020
ggtggaacat ttctgaagca gcaggtagac attttagca gtcttttatt ttaaacaca 58080
catgctcttt tattttttga gcacctctga gtgctctctt ctgtacttga tggcagggaa 58140
gggaggactc agcaggaaaa gatttctgag aaaagcaaag ctatgcttat gaatcaaat 58200

```

catatctgca atgcaggcac ataacagacc accaagtga gatgaaaatc acttcttacc 58260
 actgaactgc tttaaattcg taatttgaaa taatctcaaa cttatagaaa agttacaaga 58320
 atggttttaa gagccctcat actcttccat atccaccaat tgtaacata atgaaatttc 58380
 atttacatat ctctatatat agatctaata tataatctaat tatatatatg taatttcatt 58440
 atatatacct atatataat acacatatat atgtacacac acatacatag aggttattgt 58500
 tttctgaacc atttgagagt aaattgctgtt agaaggagca agattacatg ataaaaaaag 58560
 aaaataaaaa tataaaaaag agaataaatt gcaggcctaa tgtccctttc ccctaaatag 58620
 tgtactatat accatagtag gtatttccta agaacagaag cactcactta tatatacagt 58680
 gcaatgttca gaaccagaaa atttaacaca gtacaatatt atctaataca tagactttat 58740
 cagattttac cagggaggtt cattctttgt ttttctggtc caggatccaa tctaagatca 58800
 caggttatat taggtgatca tgactctgag tcaaggacgg ttcaatctct ttttgatctt 58860
 tcatccattg atatttttaa aaagcacagg ctggttattt tataggctat ccctccattt 58920
 gcgtttgtct gatgttccct catgattaga gctaggttac acattgttgg caggaagagt 58980
 ccgtaagtga tgctgtgctt ttctttaagt atcacatcag aaggtgtata cacacacaca 59040
 catttatatt tatatatata tacatatatt tatatatgta tatttatata tacatgtatt 59100
 tatatatgtg tgtatatatg tagatatatg tatgtatata tgtgtatata catgttatat 59160
 atatatatat atatatatat atatatatat atatatatat actttttttt tttttttttt 59220
 tgagacagag tttcactctt gctgccagg ctgaagtga atggtgctat ctcggtcac 59280
 tgcaacctct acctccctgg ttcaagtgat tctcctgcct cagccttctg agtagctggg 59340
 attacaggca tgtgccacca tgccctggtt attttgtatt tttagtagaa acaaggtttc 59400
 tccatgttgg tcaggctggt ctccaactgc cgacctcagg tgactggccc gccttggcct 59460
 cccagagtgc tgggattaca ggcgtgagcc accctgccta gccagaaggt atatattatt 59520
 gggttgtctc attaatgggg atgttaactt tgatcacttg gtttaagggtg tatctacaag 59580
 ccttctccac tatgattgaa tttttaacca ataaaaatat acaggtttaa ctattacacc 59640
 ctcttaggc acacttactg aacgctttct gtgtccctta cacagatcta gactgattat 59700
 catgcttgcc atctaccttg atttaaaatc tggttaacag tgagggatgt attacaatta 59760
 ttgcattaat caaaaaaccc aaaaaaatg gtcattagga gtggtgtgtt ggtcgaagta 59820
 ttaaaagcag taagtgttgt gagttcatag gtgagaaact acctgttggg tggatggaga 59880
 aaaagtctac aaaagaaagt aactagaaca tggcatagca catggtaggg agtcagtaaa 59940
 tatttgttgg aagaataact gaggttataa aaaacagagc tgactgtgaa ggaatctttt 60000
 tataattatt tcaactattac attcaatgta gataatgact taccagtttt gttgaaggca 60060
 acacttttct agaggaactg atggttttaa gctaacagtg aattatgaga tagtaacatt 60120
 tcaaattaac tttataaatg tagttttcta ttaaaaaatc aaacttagct ggggtgtgga 60180
 actcacatct gtaatcccag cattttggga ggctgaggca ggaggattgc ttgagcccag 60240
 gagttcaaga ccagcctggg taacatagtg agacctcaa tgtctataaa aataaaaaatt 60300
 agccaggcat ggtggcatgc acctgtagtc ccagctactc gggaggctga gatgggagga 60360
 ttgcttgagc ctgggggggtc gaggtacag tgagccgata ctgaactgct gcaactccagc 60420
 ctggacaaca gagcaagacc ctgtctcaaa aaatatatat ataaaaaatc aaactttgtt 60480
 gtgtttatth ccttctttta ctaccagtaa gaacccaga aggcaatata agctttact 60540
 gtaaagggtc tgacactgtt atttatgaac ggttacatcg aatgaatcct actaagcaag 60600
 aaacacagga tgccctggat gtaagtttca cttttattct ttctgcaagg gattctgaac 60660
 ttactctctg atgctgtctg ttaagtttgc atgaaagctg tatgttaact gctgacctc 60720
 cctttgcttt gcaatagttg ggggtgaaag agcagtaaag taggaatata gccacctggg 60780
 tcccagttct gccctgcca ctgacttctt gggatatcac catggtgccc tctcccagca 60840
 tgtgggtctt caaggtctat aggactgagg caggggaatg gcttagctct cttccagtgg 60900
 ccttgagcaa gctacataac catactaggt tgtagtctta ctatgtgtgt ggtccccag 60960
 acctccacta acttcaagtt gtagtgcaaa ggaaggaaag cattcatatg tgacaggatg 61020
 acagagctga ctataggtca catcttgtct agccaagatg gcagaagcgg ttcaactgat 61080
 tgagtatttg gtgtctcatg cctgtagtcc cagcactttg ggaggccaag gcgggtgtat 61140
 cacctgaggt caggagtcca agaccagcct ggccaacgtg gtgaaacccc gtctccacta 61200
 aaaatacaaa aaaattaact ggggtgtggtg gtgggacact gtaatcccag ctacttggga 61260
 agctgaggca ggagaatcgc ttgaacccca gagggagggg gtagagttag ccgagatcgt 61320
 accattgcac tccagcctgg gcgacaagag caaaacttgg tcaaaataaa aaagatgtga 61380
 ctataaagta atgagatgtt tactggttca tgttgaaact gtttaaaatg tttaaatcag 61440
 gctgggtgca gtagctcacg cctgtaatcc cagtactttg ggagggtgag gtggcagatc 61500
 acgaggttaa cagatcgaga ccactcctggc caacatggtg aaaccccgtc tctacaaaaa 61560
 atacaaagat tagccagatg cagtggcacc cgctgtaat cccagctact caggaggctg 61620
 aggaggaga atggcgtgaa ccaggagggc agaggttgca gtgaaccgag atcgaccac 61680
 tgcactcaag cctgggcgat agagttagac ttcatctcaa aaaaaaaaaa aagaaaaaga 61740
 aaaagaaaaa aaaagaaaat gtttgaatcg ttcatcatgg gaaaattgcc agatactctt 61800
 ttccattaaa agctttgacc tcagctttta caatggcttg tgtattttag aattgggtttg 61860

```

agggataaat gcttagtgga gagttcatag gtgattggac ttgtatcaca gtttgttga 61920
acaagttata aagttgtcag gtctgtgctt atgtcattac accccaaggc agctcccttg 61980
gtctgatat ttcctagtca tgaagagaaa aagagaaaat gagaaaatga gaaaggtaat 62040
agaagattta gaagaaaagg aaagcttttcc ctttggaaac tggaagtgcg gtccctggacc 62100
ctatagaagt ttagaaaagc aaagtctatt ataaagtgat gtttaggctg ggtgcagtgg 62160
ctcatgcctg taatcccagc acgctgggag gctgagttgg gcagatcaca tgagctcgtg 62220
agttcaagac cagcatgatg aaaccccatc tctacaaaaa aaagtacaaa aattaccagg 62280
cgtgggtggg cacacctgta gtcccagcta cttgggaggc tgaggtgaga ggatggcttc 62340
agcctggaag gcagagggtg cagtgcgagc ggattgcac actgcatccc agcctggatg 62400
ataaagccag accttgtctc aaaaaaaaaa aaagtgcacat ttaatcccct ctctaaagtg 62460
tatttgtaca gaatctgtca tgtttaatga tctcttttta aattctgtta gtatattact 62520
tcaaagtaaa atttcagact tgatcctgaa ttacataaat taactattct ttgcattggg 62580
ggatttattt ttttaataaa aacagatctt tgcaaatgaa actcttagaa ccctatgcct 62640
ttgctacaag gaaattgaag aaaaagaatt tacagaatgg aataaaaagt ttatggctgc 62700
cagtgtggcc tccaccaacc gggacgaagc tctggataaa gtatatgagg agattgaaaa 62760
agacttaatt gtgagtttta gccttaataa ctttttcttt gatattctaa gcagaattga 62820
aatttttatt aagttttatt gaatatttga tctcatgctt aagagataat tgtaacttca 62880
gcatttgaca ctggcacaat ggaagaaggc tatttctttt attcaccaa ataggagcag 62940
aacagaagtt gccattatga gaaacaaaaa gacaaaaata attaggagaa gttctaattt 63000
aattccataa tttgtatata acttattata atttattata atttttaaac aataacaaac 63060
ctgcatctaa tacttattac attgggggaa ttaccgaaac aattcatatt ctgcaaaatc 63120
ttgaaataag aaaaatata tgtttctaaa agttttccaa atttaataca tagtttttgt 63180
agggtttaga taagtggaaa atattcaaca aatagctagt attgcaactg gtttacggtt 63240
tatgtcagta taaagccaca aatacacaag aaaagtgtat ttttaacatc cttgattttg 63300
tacttgcatt tttgtcttgg taaattaaat agttcatcct ttagggaata agtttttagg 63360
tgtgttgggt tgcagtaatt gtgaaacatg gcagccttcc ctgttaacac tggccattgg 63420
ccccaggaga gcagcaacca ggatgtataa ttagcccttc tttttacagg ttggcaacct 63480
gtaattacag aaaacttttg gtttgtttgc taattccttt tttttttttt tttaatatac 63540
attctagctc ctgggagcta cagctattga agacaagcta caggatggag ttccagaaac 63600
catttcaaaa cttgcaaaag ctgacattaa gatctgggtg cttactggag acaaaaaggg 63660
taattcattg tgcagggaag catatctggt aattcacaaa tatttatagc tgccgtttcc 63720
tttgcccaag atgacctcct cagacttttc atcctgtaca aacactgttt ctttggacgg 63780
aagatgcttt ttctgagaaa cctcctctct tttttccagc acattcttct gcactccttc 63840
ctgatcccc tcagtagcag tttcttcctt ataatttagc tctggccat gtcttgctga 63900
ttataatttg tcttatctct ccagccagac gtgggttccc gtctgaaaag ggccatccct 63960
cttgcctctc tgtccttcca gtgctttgac atttggtggg cacagagtag aacaatacaa 64020
agtactgaac aataactttg gttttcttgc caattttatt gcttggcaat aaaattgtat 64080
acctaaggaa agaacgattt taatttttta actttagaac tcaacaagca cttgtttggg 64140
attgatactt tactttgtaa gccttccaca agaaatcaaa taatgtctct tgcgctgaaa 64200
tcgtcaacgg gttacacact ctgcaaaagt atgggaagca cagccctgac cttaaataaa 64260
tgccaaattg ggtggttaatt taaaaggaaa aaaaatcttc acgtaagggt tgggtggaaat 64320
tattatgctt cctctgccc cgcggcccg ccaataacag agtaattgaa ccaggaactg 64380
agagtgttta gtaatttaat gaacattggt ttactaaata accagtttat atgtttgata 64440
atatagcaca ttttattatt gaaaacattt caaattagac tttgactttc acttgtttta 64500
ttatggagaa aaggattttt cttctgcatg tgattcctac agattgctat agaaaaatag 64560
tgtgtttgtg tgaatctggt tatgttcag aactaaaaaa tatcattact aggtaaaatc 64620
aattattcag ttcaacagta agaatgagc tggcaaacat gacaaaacc catctctaga 64680
aaaaacacaa attgtttggt ggcttggcag cgagttgcgt agtcccagct acttgggggc 64740
tgcggtggt gctgagatgg gcagatcact tgaatcctgg aggttgaggc tgtagtgagc 64800
agagattgtg ccactgcact ccagcctagg cagtgggagt gagatgctgt ctcaaaaaac 64860
aaaataaaat aaaataaaaa cagcaggaat gacatttgac ttaattttat tctattgtag 64920
aaactgctga aaatatagga tttgcttgtg aacttctgac tgaagacacc accatctgct 64980
atggggagga tattaagtga gtaaaagcct gcagatgaa attacgtaat agctcatctt 65040
tgcaaatgca agactgtctg tagaagatag cagatatgaa gaaatagggg ttacgtgtg 65100
tcaactgggg cagtttctc atgtttaaat gaggcaagac aacaacaggc agttccaagt 65160
aatcaagggt cagcctaaat ttgagcagat tttactttta gggaaacttg gggcccttca 65220
gaggccattt ttctccattc cttctcagct caggccaggc gcagtggctc atgcctgtaa 65280
tcccagccct ttgggaggcc gaggcgggtg gatcacctga agtcaggagt tctagagcag 65340
cctggccaac atggtgaaac ccgctctcta ctaaaactac aaaaatttagc tgggtgtggt 65400
gcccgtgcc tgttatctca gctactcggg aggctgaggc aggagaatca cttgaaccca 65460
ggaggcagag gttgcagtga gcccaagatca cgccactgta ctccagccta ggtgacaaga 65520

```

```

gtgaaactct gtotcattaa aaaaaaaaaa aaaactcggt tcacctacta aaaattccgt 65580
aaaaagcctg taatatcgct agcaaatata tatgaattat agtcctatct tgctttttct 65640
aggaactttt acttttgaaa gggaaataga agaaaggaaa aaaaaaaccc aaaacttttg 65700
cggaaggaa atgtgtgggt gggttacatc atgtagggtc cctgtaatct agtctagggtg 65760
gggcaggcct gataattcaa atgttagcat atgctgaaac gtttgtagc tttgaatcag 65820
agtcgcagca gacctggaaa tgtatgatga aaaagccctg tcttgttctg aagctataaa 65880
tatgctgcac acagttactg tgatgtgttt actgatggcc tgacagtctc tcaagatttt 65940
tccctacaga gcttctctca ggccagcatg aggtcagatt aaactgttaa catacacatt 66000
tgccagggtg gataaagtga tgagggaatt gatggtcaat attagtctta tttctaataga 66060
tggtgataaa gcatttttct gttgttctag tatattagggt attccgtcaa attagacaaa 66120
atcagtagcc ttatgatcta aatcagttcc atttagaact gatttagttt atgtgcccaa 66180
atagaggtag ataagccatg cccctttgtg ctttttaggt ttaaaaaagt agcaacaggc 66240
tgggcacggg ggctcatgct tgaataacca gcacattggg aggccgaggc ggggtggatca 66300
cgaggtcagg attttgagaa cagcctgact gatatgatga aaccccgctc ctactaaaaa 66360
tacaaaaatt agccaggcat ggtggcatgt gcctggaatc ccagctactc gggagactga 66420
ggcaggagaa ttgcttgaac ctgggaggca gaggttgtag tgagccaaga tagtgccact 66480
acactcctgc ctgggtgaca gagcaagact ccgtctcaaa aaaaaaaagt agcaacagac 66540
aaataaatgc ttaatgctta atgagtttac ttttagtagt ttgggcttca agtaatctga 66600
ttaattacta tatggctttg tttatttttt gtagatgggg ctgtaaaaaa atttctggtc 66660
tctcttttga aagtcttaaa aattgggtccc gaagctaaaag taaaagataa aatgtatgca 66720
agtagcaaat gttgtgacca tgcccttagc tgagtttacc tttatagaga gaggaatcat 66780
cttcccagggt ggctcttaaa ttgatgattc ctataaaatg atttgaatag aaggatatctt 66840
catttttttt ctcttacggc ctttcaatga tttgtcttag tcaactcact ttaacttgaa 66900
aatgagaatt aaattgatgt ggaaaaggga tactagatac ttaatcctct agtgcagtga 66960
ttctccgtgg ggagtgaagt tgccctccag ggaccctttg gcaactgtcca gagacacttg 67020
cttgtttcag ctgcagagaa gtgctcctgg cttctagtgg gtagaggcca gggatgttgc 67080
taaacatcct ccagtgcagg ggatggccac acaaaataaa ggattattag gcccaagaca 67140
tcaagagtgc aaaggctgag aagccttctt tggaaggaga agaacaatgg ctttttgtat 67200
gtaatagtaa gagtcctgag ccagaagtta caagataact gagtccctcat tctagttttc 67260
ctatcaacct gcagcaggca aatcacatca ccttcctctg gcttgatttc cttattttga 67320
acatgaagag attggacaag atattttaag tccctccac tccaaaattt catgactcat 67380
ttttctatca catgaaagtg ttacacgtag ccttgtcaca tatatcattt taacacaaac 67440
atttaatttg ttgatataaa gcaactgagaa tttctcaaac acagatatag ttttgtttat 67500
atgaaaataa gtttatttct aacaaacaat agccagtatt ctaattcaga tcaagattgc 67560
ctttctcttt tttttttttt ttttttctta gaaagactct gtcaccagg ctggagtgc 67620
gtggtgcaat cttggctcat tgcaacctcc gcctcctggg ttcaagtgat cctcatgcct 67680
cagcctccca agtaactggg attacaggca ccgccaccac gcctgggtaa tttttgtatt 67740
tttagtagag acagagtttc actatgttgg ccagtctggc tgcaactcc tgacctcgac 67800
tgatctgccc gtctcagcct cccaaagtgc tgggattaca ggtgtgagcc acagtgcctg 67860
gcctaagatt gcctttcttc tgttgcctgt tatacatctt caactgtatc ttcctttgac 67920
tgtctttgaa aaatgatgaa ttacatggta ccccatgggt ggatgaatcg agacatagta 67980
aaattacatg tcgctcagtt aaaaaaaaaa aaaaaaaagg gctggccagg cgtgggtggc 68040
catgcctgta atcccagcac tgtggggggc tgaggcgggt ggatcatgaa gtcaagagat 68100
tgagaccatc ctggccaaca tggtgaaacc ctgtctctac taaaaataca aaaattagct 68160
gggcatggtg gtgcccgtct gtagtcccag ctacttggga ggctgagggt gaagaatagc 68220
ttgaacctag gaggtggatg ttgcagtgag ctgagataac accactgcac tccagcctgg 68280
tgacagagcg agactctgcc tcaaaaaaaaa aaaaaaaagg aaaaaatggg caaagcactt 68340
tgagtagaca tttttccaaa gaggacatgc aaatggctga taaacatgtg aaaggaggct 68400
catcatcat aatcattagg ggaagataaa tcaaaaccaa agcaagataa cacctcacac 68460
cctttaggat ggctactatc aaaaacaaaa cacaatagaa aataacaatc attgttgaag 68520
gaacctttgt gtgttgttga tgaaatatat aaaaatgggt agccactatg caaaacagta 68580
tggtgatgtt tcaaaaaatt tcaaaaagga ttaccatgat atgcaacaat cccacttctg 68640
gggtatatcca caaaataatt gaaagcagga tctcaaagag atacatgcac acccatgttc 68700
acagcaacac tgttcacagc agccaagaga tggacgcaac ccaggtgccc atcagtgaat 68760
gaatggataa acagaatgtg gtgcttccac ataatggaat atattcaact ttaaaaagga 68820
aggaaattat gacatatatt atatagatga acctggaaga catlaagcta agtgaaataa 68880
accagtcaca gaaagacaaa tactgtttga tttcacatat atgagggtatc tagagtgtc 68940
aaattcattc aaacagaaag ttaactggaa gttaccaggg actggagggc gagtgagggtg 69000
agggtgttatt gtttaatagg tatagagttt ccgttttgca agatgaaaaa gttctagaga 69060
ttggttgat aacaatgtga ctatagttaa cactactaag ttgtacactt aaaaatgggtc 69120
aaagcccggg atatggcaaa accctattgc taaaaaaat acaaaaatta gccaggcgtg 69180

```

atagcgtgtg	cctatagtcc	cagcaactca	ggaggctgag	gcaggagaat	cacttgaggc	69240
tgggaggtca	aggctgcagt	gatccatgat	catgccactg	ctctccagcc	tgggtgacag	69300
agtgcagccc	tctctcaaaa	aaattataat	gaaaataaaa	taaagaaaca	aaaataggta	69360
agatggtaaa	ctttgttttt	ttgtcacaa	tttttttaag	tcaaagttat	ctcagagtca	69420
agggcctatt	tagggtctta	cacttttaaac	actgaaat	ggtttcccct	agttctcttc	69480
ttcatgcaag	gatggaaaac	cagaggaata	gaggtggcgt	ctacgcaaag	tttgcacctc	69540
ctgtgcagga	atcttttttt	ccaccgggtg	gaaaccgtgc	cttaatcatc	actggttctt	69600
ggttggtacg	tatcattagt	gtatctgtgc	ctttaactca	aaagaaagaa	gttcatttgg	69660
agccactttt	agatgctttc	acatgttaac	tgccaacctc	aaagtctctt	agcctataca	69720
tgaaagtgtg	gtttttccaa	gtttgagact	taataatata	tgatatatga	aaggatgtat	69780
accaaagagg	taaaagtgg	tatcttgggt	tactaatata	tgggtttttt	cattttcttc	69840
tttatagatt	gttagatttt	ctaaattttt	gttgcatata	tattttataa	gctggatgtg	69900
gtggcatgcg	cctgtagtcc	cagctcctct	ggagggtgaa	gcaggagggg	ggtttgagct	69960
taggtgttcg	aggctgcagc	atgcaatgat	cacacttggtg	aatgaatagc	cactgcactt	70020
caaccaggc	tatacagcaa	gaccccatct	ccattgaaaa	atataatata	agctgagcac	70080
agtggctcac	gcctgtgctc	ccagcacttt	gggaggccaa	ggcgggcaga	tcacaaggctc	70140
aggagatgga	gaccatcctg	gccaatatgg	tgaaccccg	tctctactaa	aatacaaaaa	70200
aaataattag	ccaggcgtgg	tggtgcacac	ctgtagtccc	ggctactcgg	gaggctgagg	70260
cagggaaatt	gcttgaacct	ggaaggcaga	ggttacagtg	agccgagatc	gtgccactgc	70320
attccagcct	ggcaacagag	tgagactcca	tctcaaaaaa	aaaaaaaaaa	aaaatatata	70380
tatatatata	tgtgtgtgtg	tgtgtgtgtg	tatatacata	cacacataca	tatatgtgtg	70440
cgtgtgtata	tacatacaca	cgcacacata	tatatacatg	ttttggttat	aaaatcaaat	70500
ttatttgtca	aatataatca	gtgacataat	ccaaaaatta	tccttcacat	aatttaaadc	70560
ttgggaatgg	tactcctggg	gtaaaaactaa	agtgaatgta	accttttccc	tctctgattt	70620
cacagaatga	aattcttctc	gagaaaaaga	ccaagagaaa	taagattctg	aagctgaagt	70680
tccaagaac	agaagaagaa	agacggatgc	ggacccaaag	taaaaggagg	ctagaagcta	70740
gaaaagagca	gcggcagaaa	aactttgtgg	acctggcctg	cgagtgcagc	gcagtcacat	70800
gctgccgcgt	caccccaag	cagaaggcca	tggtgggtgga	cctgggtgaag	aggtacaaga	70860
aagccatcac	gctggccatc	ggagatgggg	ccaatgacgt	gaacatgatc	aaaagtgaat	70920
catgcaccca	cggccagtga	ggcccaacgt	gctagagagg	agaaatggct	ggaatgtgta	70980
gggggtggat	tttctttttt	tagattttac	agcttaggtt	ttcatagagc	agatgtttca	71040
taaagtcaat	taaccatgac	aacgcctgtg	acctacccc	cagaaagccc	acagcccac	71100
aggaggaaa	agtatcactg	acagggcttc	tgaaggatgc	gaagaggaaa	ataagggtcta	71160
tggggggaaa	tttatcctta	tatttttatt	cttttatata	gatgttgtgt	atttttttct	71220
ctcttactgg	ttctcttccc	atattttggg	tttattaaaa	gccctgatat	tggctgggca	71280
cagtggctca	cgcctataat	cccagcattt	tgggaagccg	aggcagggtg	atcacaagg	71340
caggagtctg	agaccagcct	gatcaagatg	ctgaaacccc	gtctctatta	aaaatacaaa	71400
aattagccag	gtgtgggtgt	gcacacctgt	aatcccagct	actcgggagg	ctgaggcagg	71460
aaaatcactt	gaaccagga	ggcggagggt	acagtgaact	gagatcgtgc	cactgcactc	71520
cagcctggac	gacagagtga	gactccatct	caaaaaaaca	aaacaaaaca	aaaaaccctg	71580
atatttaata	agttttgtaa	gacataaatt	attgaactct	ggctgggtgt	tgttttgaca	71640
atatcattct	ccttcactca	agcatttctt	tctgggactt	tcttcctacc	tttggtaaat	71700
ctgtgggaac	ttcatcattg	ggtcacctgg	tgtgagttta	gagtaacatg	tttagcactg	71760
aagaaaagct	tccacgtgct	ctcatcatcc	tcctcacctc	cctagaaggc	tgcctttttc	71820
tggatgctag	aatttaagtc	cacacaatta	aaatattgag	tcctgccatg	cagaaatata	71880
gttgtgctgg	tattaaagcc	tgcaagaact	cacccacagc	cctcatctct	atgtctgaat	71940
tctgttcctt	tttccctcct	ctgtcactat	aaggagatgt	cttgtattaa	aaatactcaa	72000
actaatgacc	tggatattca	tcctcatcct	attgccaaaa	tcgggtgtca	ccttgggctt	72060
atgctcaggt	ttcagttttc	tcacgggaaa	agaaaataat	ccctaagtgc	acctccagct	72120
ctgtcgtatt	attatcactg	agctgaagta	ttacctgact	gtacataggt	aattgcatgt	72180
tcctgtgatg	ctgggttgct	taaatgcatt	atatataact	agacttttca	gtctattttg	72240
tgactcatga	gtctgtctct	ttcttttctt	agtctcctcc	tcctccttga	tgtataactaa	72300
gaatattcca	actttatctt	cctcaacagg	agtcagctgt	atgacgtatg	tcactttgcc	72360
ttctttatca	gtgcgtatgt	ctgtgggtcac	tagcagttta	attcatccac	actgtttttt	72420
tttttttttt	tgcagtgtgt	tgccctacca	tgcaaatgg	attgcttgct	cggagttaga	72480
tctatctctt	tcctccatag	ccagccagct	ctagttttat	ttccattacg	tacctttaac	72540
gtaactagcc	gtgcaaaaag	gacaagtcaa	acatgatttt	tattcagtta	taaagttagcc	72600
ttctagataa	tgggagggga	cgggtttgct	ttggagattt	atcaactgat	tatgtgactt	72660
agacttgaaa	cattttgttc	ctctgagttc	accaatacat	aatgagagg	attgcacaaa	72720
gtcaatgtag	ataatcttag	aggggcttgt	ttttcttaag	ttgtcttaaa	atttttatta	72780
agcactgtta	tatgccaggt	gcatttaaaa	aaaaaacaag	gtctccctct	gtggcccagg	72840

ctggggtgca	gtggcatgac	cttgggttac	tgcaacctcc	acctcctggc	ctcaaacaat	72900
cctcccaact	cagcctccca	agtagctggg	actacaggca	tgagccacca	tgcccagcta	72960
atTTTTgtat	TTTTgtaga	gttgggaatt	tgccatgttg	ctcaggctgg	tcttgaactc	73020
ctgggctcaa	tcagtctgcc	tgccctcagtc	tcccaaagtg	ctaggattac	aggcatgagc	73080
cacctcacct	ggccccaggt	actttttatat	ataagttata	gagcatccct	ttgggataaa	73140
aatataggaa	acttttagggg	tctccttaga	agttatacaa	gtagtattag	tgccctttatg	73200
tactttgtaa	aagctgtcat	ttcttccaac	cacatcaata	acaatatata	gaaagtttag	73260
ccaagtatgg	ggcacacacc	ggtagtccca	gctacgtggg	aggctgagac	ggaaggatta	73320
cttgagcctg	agaagttgag	actacagtga	gccatgtttg	tgccactgca	ctccaccctg	73380
ggtgacagag	caagaccctt	tctccaacaa	caaaaaagaa	cacacacaca	cacacacaca	73440
cacacacaca	cacacacaca	aagaaattgt	tggtcataaa	gtagtgcagt	gaaattattc	73500
aagtgtcaaa	aaataatctg	agcattttgct	aacattcacg	tttagcagtg	tagtctggaa	73560
gaagtgaagg	aatcatgacc	caccatgttt	ctgcccctag	caaggatcca	aggactatca	73620
taggctgcct	tctccctcta	tctacctga	agatatctca	taccagctgg	gtggatgttg	73680
tctcttcttg	gtcttagacc	ctgagaatgt	acgtgaagca	ggagagagat	aaaggcaagg	73740
tggggcatgg	tggctcatgc	ctgtaatccc	agcactttgg	gaggccaagg	caggcagatc	73800
acctgaggtt	gggagttcga	gaccagcctg	gccaacatga	tgaaacccca	tctccactaa	73860
aagtacaaaa	attagccggg	catgggggtg	gcgggcacct	gtaatcccag	ccactcggga	73920
gcctgaggca	ggagagtcac	tggaacccag	gaggcagagg	ttgcattgag	ccaagatcgc	73980
accactgcac	tccagcctgg	gcgacagaaa	aagactccat	ctcaaaaaaa	aaaaggcaag	74040
agggtattat	gctgtagcga	ggaaatattc	tttttgttaa	ggaatgataa	aagaatgtct	74100
accagtggag	cacctaacac	cgcatttgag	atttcaggaa	actctaaatg	cctgtactta	74160
aattttacaa	aaaagaccaa	tgttacctta	tagtgtatct	gttcagtgct	tttgggtgcc	74220
ctgggaacta	tgacagtgtt	catttcacat	ttgtccttgg	tctgtctcagc	gggaagggtg	74280
aggactggat	accagggcct	ggggcagggc	ttcctcttcc	tcagccacat	aagccaagag	74340
aatctcagca	ttttcctcag	tggcttgttc	aggaaagaaa	aggccatggt	ttggcaggaa	74400
agagcaagtt	tggcaacccat	gctggtcata	ggaaatattt	gtgtgttttc	aaagagaaca	74460
taaatattat	atgagatgca	gtttgttctg	tttttttaga	agtgttactg	aaaacgtagg	74520
tttgatata	tactacagt	tatgttttga	atttgccaga	ccttgtgttc	tgtaactagg	74580
gcaggatttt	tgaagcttct	ttttagtttg	aacgcgcag	cattgcagcc	acttttcagg	74640
gtctgagcaa	tgataggttg	tgttctccaa	catatctttt	ctaaatgatc	ttgtctatct	74700
tcacattcgt	tacttttaag	accagacaaa	aactaatcat	tctctaattt	gaaagtgtta	74760
tttatgacta	ttggaagcat	aaataaaatt	gtgactttta	ttttatatat	tctggaaacc	74820
ttccccgta	aagaaaaaaa	aaatgtctta	aggctccaga	gggccatgaa	taagactttg	74880
aaagtttaat	agtttcttgg	ttaaaactct	tttgattaca	agtattggag	aacaacccaa	74940
gctagcttaa	gaaaaaatta	aatttgagga	gtgggagacg	aggggagggg	acctagagga	75000
tgggtcaata	ggtgcagcaa	accaccatgg	cacacgtata	cccatgtaac	aaacctgcac	75060
gttctgcaca	ggtatcctgt	aacttaaaag	aaaaaaaaga	aaaaagtaaa	tttattttaaa	75120
cacctcctgt	tgtccaagaa	gaagccaggc	ctcaggaaga	tactggaaca	aggacataga	75180
tttgaccag	gaaccccggt	tctgtctgtc	tctctccctc	tctctctccc	tttctctctt	75240
cttcccctcc	ttctctctct	cccctccctc	ccttctctcc	ccactcttct	ctccccactc	75300
ttctctcccc	ccattctctc	cctccattct	ctccctctct	cccacccctc	tctccccact	75360
actttatttc	tctgcccctt	agaaatcttc	aggaaagaaat	atatctattt	cggccaggca	75420
cagttgttca	tgtgtgtaat	cctagcactt	tgggaggcca	aggcaggtgg	atcacctgag	75480
ttcaggagtt	caaggcctgc	ctggacaaca	tggtgaaacc	ccgtctctac	aaaaatttagc	75540
tgggtgtggg	ggcgcacatc	tgtaatccca	gctactcgag	aggctgaggc	aagagtatcg	75600
cttgaaccca	ggaggcagag	gttgcagtga	gccaagactg	cgccattgca	ctgcagcctg	75660
ggtgacagag	tgagacttca	tctcaaaaaa	aaaaaaaaaa	gagagagaaa	gaaatataac	75720
tatttcttac	ctcaagaatt	tagaccttaa	aattctagac	acaaaataac	tgactttctaa	75780
ttccagaata	tcaagagaga	gactggctca	gcttgggttt	tctgtcagtc	agggttttagc	75840
acaggaaaaca	gacccaggtt	ggtatttaag	caagaaaaga	ttcatcacag	ggactaggta	75900
ctttcaaaag	ctctggatgg	tctacagaag	cagggtctag	gctgggtcac	ttaccagaag	75960
agcttctact	cttctggtaa	gtgataagag	gttcctctaa	agagcttcca	aattaagaag	76020
cctttatagt	tgccgtgcaa	catccaggta	gctggaaagt	agatatgagc	tctgtctgag	76080
aaatcccaaa	agagggaagc	atgctgggct	ctgattcact	tctgcttcca	agtcataagt	76140
ggatctaaac	agtggaaact	aattcacaaa	gagcctagct	gcaagggagt	ctgggaaatg	76200
taggggtttt	atttcccttt	ccacctctct	aattagaaca	aggatggaat	gaagtgtggg	76260
gagccgattt	gtagtatcta	ccacaaatta	catatctgcc	catgactgac	acagctgttg	76320
ccaaagaggc	aaggacacag	tgtacacatg	ggtgcctggg	gctcaccctg	tggatggaag	76380
ggatggctgt	gatcttggca	gataatccaa	atggaattcg	tcaccacat	gagatccttt	76440
cccagatatt	tatggaggcc	ctactgtgtg	ctctgtttag	caacttgtaa	ctcagacttt	76500

gagttgagtt	caagagctgg	gggtgagggga	tggtagagcaa	gagcttctgt	attattgttc	76560
catcaatgtc	tgtctttgtt	ttttgtttgc	tatggaacca	tttttatcaa	ctgatgtttt	76620
gcctcacaat	cggtttatga	tccacagtgt	tttctccctc	tgccccatag	ctgcccacat	76680
tggcgttggga	ataagtggac	aagaaggaat	gcaagctgtc	atgtcgagtg	actattcctt	76740
tgctcagttc	cgatatctgc	agaggctact	gctggtgcat	ggccgatggg	cttacataag	76800
gatgtgcaag	ttcctacgat	acttctttta	caaaaacttt	gcctttactt	tggttcattt	76860
ctggtaactcc	ttcttcaatg	gctactctgc	gcaggtaatg	taatgttgtt	attattgtta	76920
tttactaagt	agagctctta	aatgaataaa	aatctagtct	tgaaaagaca	atttattttct	76980
tctatattttg	tagttttggg	gctgtgtctc	cttacagtgt	gggcataaatt	aagaatgata	77040
atgacttctc	taaatgtttc	tgggtgtgta	aaaacatttt	accttagaaa	ggagggggatt	77100
tggccaggca	tgggtggctca	cgcctgtaat	cccagcactt	tgggaggctg	aggcagggtg	77160
atcgccgtgaa	gtcgggagtt	tgagatcagt	ctggccgaca	tggtgaaacc	tggctctctac	77220
taaaaataca	aaaattttcc	gggtgtgggtg	gcaggcacct	gtaatcccag	ctactcggga	77280
ggctgaggca	ggagaatcgc	ttgaacctgg	gaggcagagg	ttgtggtgag	ccgagactgc	77340
gctattgcac	tccaacctgg	gcaagacttt	gtctcaaaaa	aaaaaaaaaa	aaggagggga	77400
tttgcttgta	tgtttttatc	tttatctttg	gttatttttt	catgttgaca	ttaagagttag	77460
cgataacagg	gctgggtgca	gtggctcacg	cctataatcc	cagcactttg	ggaggccgag	77520
gtgggagggt	cacctgaggt	caagagttgg	agaccaacct	ggccaacatg	gtgaaacccc	77580
gtctcaacaa	aatacacaaa	aattagccag	acatgggtgg	gtgtgcctgt	aatcccagct	77640
acttgggagg	ctgaggcaga	agaatcactt	gaacctggga	ggcagaaggt	acagtgagcc	77700
aagatcacgc	cactgtactc	cagcctgggc	gacagagtga	gactctgtct	cagaagaaaa	77760
aaaaaaagaa	tattgataac	aggccagggtg	catagagttt	tgcttataat	cccaacactt	77820
tgggaggctg	agatggggag	atcgcttaag	gccaggagtt	cgaggccagc	ctaggcaaca	77880
tagcaagacc	cccatctcta	ttaaaacaaa	caaacaaaca	aaatgttaaa	taaaggaagc	77940
agatgagtat	gtgctaacta	ggctggcatg	tgtctttgtt	ggtgacatgg	agcctctgtc	78000
atccccctcac	agactgcata	cgaggattgg	ttcatcaccc	tctacaacgt	gctgtacacc	78060
agcctgcccg	tgtcctcat	ggggctgctc	gaccaggtag	gagcctcgca	caagcaggga	78120
cacttctgga	cagatgagaa	tgcgttagag	aagtcccaag	caaacgtttc	aatgcattct	78180
tctgggtgtt	acttctttct	gatcaaacc	tattataatt	ctgttgtcag	gcatcaaggg	78240
tcatggctgt	gcttcttgtt	ttgtaataag	gaaagaggat	ttctctgtag	tcccagctac	78300
tcgggagggt	gatgcaggag	tatgacttga	gccagggtgt	tcaagtctag	cctgggcaat	78360
aaagtggagc	cccatctcta	agacaaaaaa	aaaaaaaaaa	aaaaagagaa	aagaggattt	78420
ctgtgactgg	gttgaattca	ttggcacaca	tatttgttat	gttcctttta	gacagtaaga	78480
gcttactatg	aagataacctg	aaggcagggc	atggtggatc	atgcctgtaa	tcccagcact	78540
ttaggagggt	gaggcaggca	aattgcttca	ggtcaggagt	ttgagaccag	ccctggcaac	78600
ataggggagc	cccatctcta	cagaaaaatt	taaaaattgt	gggcatggta	gtgcacacct	78660
gtgaagtccc	agctacttgg	caggatgagg	tgggaggatc	gcttgagcct	ggaagggttg	78720
agctgcagtg	agttgtgttt	gtgccactgc	actccgggct	gggcaacaaa	gtgagaccct	78780
gtctccaaaa	aaaaaaaaaa	aaaaagaaaa	gaaaaggaaa	aaaaggcacc	cgagagtcca	78840
atatgtctcc	acaataataa	tttactcatt	ttaaagtcag	tttaaatcct	ttccaaaatt	78900
tatgtagcta	gtgcataatt	ttatctaata	ccaattctta	aaaagaaaaga	agcactataa	78960
agactaaaaa	gtaataattt	ataattaact	catcaacttg	tatgagaaaa	ttttttccca	79020
aaggatttgc	aacaatatat	attcactcag	gaggtaaaaa	cagtagcctc	cctacatatt	79080
tttgacatt	actaatttgt	tttctttcca	taagtagcaa	agtaataaac	ttatacctag	79140
cccttctctg	aattaaatat	taagtaatgg	tggctaaagc	aatgagggtt	agctctgcac	79200
accacaaata	ttgcaggatt	gatcgattat	cttggtcagt	ttttgccttc	ctaaaattta	79260
acagcaggct	gcaacttttt	gtgagatatt	aattataaca	tatctctgac	tgctttgacc	79320
tgatgaataa	aataccatca	ttttgttttc	tccttaagga	tgtgagtgc	aaactgagcc	79380
tccgattccc	tgggttatac	atagtgggac	aaagagactt	actattcaac	tataagagat	79440
tctttgtgaag	cttgttgcat	ggggtcctaa	catcgatgat	cctcttcttc	atacctcttg	79500
gagcttatct	gcaaacogta	gggcaggatg	gagaggcacc	ttccgactac	cagtcttttg	79560
cgtcacccat	tgcctctgct	cttgtaataa	cagtcaattt	ccaggtagct	ggctttcatt	79620
ggcgttatcc	agtgtctatt	ggtacctact	tatatctctg	tatatagggt	ggcatgcaca	79680
tccacctgac	tccactgca	cctgtgccac	ttacaaaata	taaatgctat	tttcatctct	79740
tataccaagc	acattttcta	tttcttgctt	gagtcaagga	tgggtttagt	tctgggtccag	79800
tattcaagcc	acatcatgcc	taacttgctg	aattctgttt	tcaggattgt	tagatccttt	79860
atcttcttgct	aactcccca	aatgagtgtc	ctgtttttct	ctggtttccc	aacagatttg	79920
cttgataact	tcttattgga	cttttgtgaa	tgctttttca	atttttggaa	gcattgcact	79980
ttattttggc	atcatgtttg	actttcatag	tgctggaata	catgttctct	ttccatctgc	80040
atcttcaattt	acagggttgg	atcttccaaat	tccaaaaata	aatgtacaga	caaatgtcat	80100
tagtttagat	tttgacataa	cttctgttaa	gtaataaaaat	atacaagggtg	gaatggctgg	80160

gcacagtggc	tcacacctgt	aatcccagca	ttttgggagg	ccgaggcaag	tggattgctt	80220
gagcccagca	gttcaagacc	agcctggaca	acatggctaa	accccatctc	tacaaaaaat	80280
acaaaaaaat	tagccaggca	tgggtggcaca	tgctgttagt	tctagctact	ggagaggctg	80340
aagtgggagg	attgcttgac	ctgggacgtt	gaggctacag	tgagtcgtga	tggcactgct	80400
gtactctagc	ccaggtgaca	gagcgggacc	ctgtctcaaa	aaaaaaacaa	aaaaaacaaa	80460
gcacaacaaa	acaaatatat	acaaattatt	attgcttagtg	aaaattaatg	tcttgtctgg	80520
aaattaaatg	gtgatgggtg	gttgaaaggg	cataacatga	tgggaggaag	acaaattaaa	80580
atagctttac	aatagcgctg	tacgtgtgtt	gaattagata	acttaagact	taaaaggctg	80640
gataaaagcc	tattctttct	ttcccataaa	acctaatact	ggggctagat	gtggtagctc	80700
acgcctgtaa	tcccagcact	ttgggaggcc	aatatgggtg	gatcacttga	gctcaggagt	80760
ttgagaccag	cctgggcaac	atggtgaaac	cccattctcta	caaaaaatac	aaaaattagc	80820
caagcgtggg	ggcgcacacc	tgtagtccca	gctattcagg	aggctaaggt	aggaggacac	80880
ctgagccagc	gaggttgagg	ctgcagtgag	ccatgatcac	gccactgcac	tccaacgtgg	80940
gtaacagagt	gagaccctat	ctcaaaaaaa	agtcagaagt	cttgatcacc	taactttgca	81000
tttttaaatca	atgcaatgtc	aacaaatgtg	ctttttttcc	ttatttgctc	acttatgtaa	81060
atttgccttg	tttcaataaa	tttaccttcc	caattttgct	ttgcttagtc	tgatttttaa	81120
atgtctgttc	tttgagccat	aatggatatt	ttggggaggc	caatccagtt	gtaaaacttt	81180
accataaatg	atctatttat	agattatgaa	atattaacta	tgttcttttt	tttattttat	81240
tttttatttt	tgagacagag	ttttgcttta	tcaccagggc	tggagtgcgg	tggcacaatt	81300
tgggtcact	gcaacttccg	ccttccgggt	tcaagcaatt	ctgctgtctc	ctgagtagct	81360
gggactacag	gtgcacacca	ccatgcccg	ctgatttttt	gtatttttagt	agagacgggg	81420
tttcaccatg	ttgccaggc	tgggtctcgaa	ctcctgagct	ctggcaatcc	accacacttg	81480
gcctctcaaa	gtgttaggat	tacaggcatg	agccaccaca	cctggcgaaa	tattaactat	81540
gttcttagga	aaaaagaacc	acagtgatgc	atttgccatg	ttctttacag	gcacagcttc	81600
aaacgctctg	agacagccat	acattttggtt	aactatcatc	ctggctgttg	ctgtgtgctt	81660
actaccgctc	gttgccattc	gattcctgtc	aatgaccatc	tggccatcag	aaagtgataa	81720
ggtataaaga	atatagtcct	ttcccactc	tgtccctcac	agaaacccaa	gcgtttccca	81780
acagcacgtt	tctgcaaaa	ttctaagctc	atgggaagtt	tggtaagaat	gatttttcat	81840
gatttgcctt	ctttaactct	atctcacaaa	taagtctttt	ggaattggga	gtttagtgtg	81900
cttgcttttt	aatacaaaaa	ttaccaaaaa	taacaaaaaa	agggagaaca	gaatgagccc	81960
catatatcta	tctcctcagt	ttacaatta	cagtattaac	attttgtcat	acaaatcaga	82020
ttgggttttt	tttctttatt	taagaaaaat	gtcaccttct	gtagcaggat	cctttgagct	82080
acaaggaaca	gaaagctgtg	actcaaaaaca	tctctacagt	agtgcgtcat	cattaatcat	82140
tagtaggctt	caggcccagt	tgattgagca	atttaatggt	gtcaagaaag	gattgggctg	82200
gttcttgcca	tctcttctct	cagaaacctt	cattattagc	ttcatatgga	tgctggaaga	82260
tggccagagc	agttctgggt	atcacttcc	gacctatcag	tgtcgggggg	agataagagc	82320
ctattctgta	gtccttagg	ggcgtggaa	cttctcacc	aaggggccca	gtacagtgcc	82380
ctcaggtctc	acgtgccaaa	attaggtcac	ttgccattc	tggactagtt	tagcaaggga	82440
aatcaacctg	cccaccgccc	atgagaaatg	tggctgtgag	gggttggggg	gggcaatctg	82500
aatacaatca	atttccatta	gaaagaagga	gagagtagag	gctactgagg	caaccttcag	82560
tatccctcgg	gtctcccttt	tgcagtgcc	acagtatgca	gtaacaaccc	aggaaagagg	82620
ccctactgaa	ttttctcttt	gactgtaccc	atctgggtctg	aactagaaaa	gggcactagc	82680
ttcagaggag	tgggaatctt	ggctttgcat	tttctagctg	tgtgaccttg	gaaaagttaa	82740
ataaccttcc	cttggcttca	atataatatct	ccaggtagggt	aggtaggtag	atcgattgat	82800
caatcaatct	atgtatagat	atagagagat	ggatatagat	ttatatcatc	atataatat	82860
gtcgatatag	atagatagat	agatagatag	atagatatag	ccaagcactg	tggttcatgc	82920
ctgtaatccc	agaacttttg	gaggccgagg	caggcagatc	acttgaggtc	aggaccagcc	82980
tggccaacat	ggtgaaattc	tgtctccact	aaaaatacaa	aaattagacg	ggtgtggcag	83040
tgcgtgcttg	taaccccagt	tactcaggag	gctgaggcag	gaggatcgct	tgaacctggg	83100
aggcagagggt	tgcagtgagc	caagatcggtg	ccattgcact	caagtctggg	tgacagagcg	83160
agactgtctc	aaaaacaaaa	aaaaagatat	agacacacac	acacacacac	acacacacac	83220
acacacacac	acacaagtgg	ggacagaact	gcctgcatca	aaatggggca	ggtgtcaggg	83280
gagttcatca	gtgttcattt	ctgtcaaccg	tctggccagg	cctcctccct	ggtgtggatc	83340
ttattttcat	ccctcccat	ctctccctct	tgcagatcca	gaagcatcgc	aagcggttga	83400
aggcggagga	gcagtggcag	cgacggcagc	agggtgttccg	ccggggcgctg	tcaacgcggc	83460
gctcggccta	cgccttctcg	caccagcggg	gctacgcgga	cctcatctcc	tccgggcgca	83520
gcatccgcaa	gaagcgctcg	ccgcttgatg	ccatcggtggc	ggatggcacc	gcggagtaca	83580
ggcgcacccg	ggacagctga	tcccttacct	ccaggctggg	atgcggccac	aaagcacgtc	83640
tattttttta	tgaagactc	tcaggacttt	gtgtgtgtgt	gtgaattgca	ttcatcacia	83700

agatattgaa gacaataaat aatctttata acaaactcct tgggttggac tatta 83756

<210> 72
 <211> 108687
 <212> DNA
 <213> Homo sapiens

<400> 72

tacaggcctg	taaaaaataa	gggttgggat	agcctgaatt	ccagggctct	tgctgggccc	60
actctgctca	atttgccctct	cgttccaagg	tgaatcagca	atttccaagg	cctgttgaca	120
ccctcagagg	gtttcccaag	cacactctgt	gtttgggggt	attgctctga	gtatgtttct	180
cgtatgtcac	tgaactgtgc	ttgggctgcc	cttagggaca	ttgatcccta	ggcaaataga	240
taatgttctt	gaaaaagttt	gaattctgtt	cagtgcctta	gaatgatgaa	aaccgaggtt	300
ggaaaaggtt	gtgaaacctt	ttaactctcc	acagtggagt	ccattatctc	ctctggcttc	360
ctcaaattca	tattcacagg	taagtaactt	atacttgtct	ctgcaaatcc	attccctctt	420
ccctttaact	cttactttgt	ggagtggagt	gtttctgggt	tattaaacat	tggtctcttg	480
tccagtgtaa	acaacgctac	aatacttggg	tagaaactta	caggatgcat	taatgatttc	540
acaacattgt	atacaatata	gatgactctt	ggttgctgtc	ttctttatag	caatgctatt	600
tcatgtatca	atctcttaga	gagagagaga	gtgggtgtaca	tgggtgtgtg	gtacaaatgg	660
ccgaatagat	tgaataatct	gctcaaagta	aaaataccag	tgggcttctt	ttttaacttg	720
gctttgtgaa	agcacaattc	tggttgctct	gataatcaca	gattcaatga	tcacaaattc	780
tacccttgaa	agctggttta	atgcagaact	acaccgactt	tatcttttct	ccaacaccgt	840
actcatttct	tcattgtccc	ggttttcaaa	aatatagatg	caaaaaaaaa	tgagctgtgg	900
atgcatgttt	agaggggaga	aagtttggtt	ctaggatcta	atttcagttt	ttaggtcacc	960
caagccagtg	ggagtccact	attgctaatt	gcttgagcac	agagatcaaa	tattattcac	1020
acttcagact	gggaataaaa	gacagtattt	gtcaacattt	tgagggggaa	tagcttttta	1080
gagatgttag	agacaaatta	tagtggttat	acctaaaact	ttttaatat	aggagttagt	1140
agtgggtttt	attaaacatt	tgaagtgata	acttatttat	gagctgttgt	ttaatagaag	1200
ttcttttctg	tgggcaacct	cgctccctca	ctgctcaccc	ccctcacctt	ggtccccctt	1260
gctgtgctct	gtaacactgt	gattgtctct	ggttgaagcc	tccatttccc	tgtctaggag	1320
cttctgttta	cactccaccc	cactctagat	tgcaagcccc	ttgaataatt	tttgtttctt	1380
agtaccaaga	ataatgggtga	caaataattag	gggatgactc	ctaaaaatgg	attaagaagc	1440
tatttagggg	gaaaatgccc	attttggtgt	tttaaaagat	gctacaattg	ccataaaatg	1500
cccaagtttc	attgcagaaa	tcaataactg	gagttgtgtt	ttgcttggtc	aagaggaaag	1560
aactggccgg	gcgcggtggc	tcacgcctgt	aatctcagca	ctttggggagg	ccgaggcggg	1620
tggatcatga	ggtcaagaga	tcgagaccat	cctggctaac	acggtgaaac	cccgtctcta	1680
ctaaaaatac	aaaaaattag	ccgggcgcgg	tggcggggcg	ctgtagtccc	agctactcgg	1740
gaggetgagg	caggagaatg	gcgtgaaccc	gggaagcgga	gcttgcaagt	agccgagatt	1800
gcgccactgc	agtccgcagt	ccggcctggg	cgacagagcg	agactcctct	caaaaaaaaa	1860
aaaaaaaaaa	aaaaaaaaag	aggaaagaac	tgtacattta	gagacaaaga	atcgtctgtg	1920
cagttaaact	tgggtgttaca	ttctgttttc	ttcctaagca	attcttttagt	cctctacctc	1980
aacggtgcct	ctgaagaaaag	gacttacgtg	gccaatggga	tcaccgtgta	tttatttccc	2040
ttccctatca	gccatagccc	tcagggctgg	aagggcctca	ttttagtcta	ttcccagact	2100
gggtcaccca	cagtgttgac	acacagcatt	aaccgacagt	gagcttatct	ggaaaaaat	2160
gcctttctat	tttctttgtt	tcttagcata	tattaaatgt	ttctttcctt	ctctaataat	2220
cttttagata	aagaaatcat	ttgctgagct	gataataaca	aaagtatcct	acctacattt	2280
ttaaatgtca	gcagtgaag	acgtttttaag	ggcttttaaaa	aaaaaaaaaa	gaaagaaaag	2340
aaaactgtag	tttagaaagg	acatccaaat	tgaagaggag	caggggcagt	tctgttctct	2400
ctgagcagct	ctgtgaaggg	ggagtgtgtg	gcgctggggg	cttgaaaagtc	tttacagagg	2460
gcaagacttc	acaagagaaa	agccgtggag	ggaccctcac	atgatcagaa	tattcacagt	2520
gtgatgtggg	gcatgggtgg	ggcgggtgct	ctccactccc	gggcctggct	tggttccccct	2580
cactgtcctc	agctcctcaa	tggctttgag	gacatttaga	ttcttcttac	catcttgccc	2640
tgaatgtgga	aaaagctctt	tttctttaat	taagtctaga	aaaggtcaac	atgtttcaaa	2700
aaatagcatt	tgggtggaaa	ttaaatggaa	agtggaaaca	atctctgcag	agaaaatgca	2760
aaaccctaga	acacagacag	agccatctct	gcctcttggt	ctggtgggat	ctctattctt	2820
ctcaaaccce	tttcttaacc	tctgtgggtg	tgggctccaa	gtcccaagcc	ttatcagggt	2880
aacttttttt	aagtataaat	ttgatcatat	cctttcttgc	ctaaaagact	tcattagctt	2940
cccatggcct	ttaggataag	gtcccaagtt	ctcagtggtg	aggatcatga	ggccctgaag	3000
gatcaaccag	ccacatcctc	ccgagttgcc	catccgcctc	cctgagattc	actgggctcc	3060

```

ttcagccttg gacccggtg cctgtctct tgcattctggg cctttgcatg tgtccttccc 3120
tgcttgact gctcttccct ctctcttcc catggaaaac ttgctctcat cttcaacatc 3180
tcatgctaag cacttgctcc agagccttct ccagctctct agacaaggca gctcctctgc 3240
atcagggccc aggagatgcc tgtatttccc ctttctcac tgccatcctg cttgacgect 3300
aatttcccag ataattgtctg ctttccctgc cacattgtaa gttccatgag ggtagggtcg 3360
gctggagggc tgggtgctcca cacaattttt agggtaggta aatcagggtcc tcagagattt 3420
cttcctgggc ctcaggctgc cctgaactga tctcacagta cagggttgga cattttctgc 3480
aaagagctgt atagtgaata ttttaggtat gggagagaga aagggccata cattctgtca 3540
ctgtagcaca gaagcagcca aagataatag aaaatgaaag ggtatgactg tgttcccata 3600
aaactgtatt tataaaatag gatggtaatg gtatctttca gcccagaagg attcagctct 3660
ggagacacct tttctcaacc ctgacccttt tttttcttc aattcttcta caataccaat 3720
agccaattgc tagtattgat ccagccatt ggtgaagatc agcctgtcca tctgttgctc 3780
caggctgaca tccccaccag ttcacactag cagccttgct gtagtggcaa gtagtgggca 3840
ctgacatttt atgctctcag gatctttgat ttctttctgg catggcttgt agaaccctgt 3900
atctcctcca attttgacag cctcaggacc tttgtggtac tactcattca ggccatttt 3960
taaggtcagt caaagtacta ggttctctca agtgaccatc tagctgatgg tctctcttcc 4020
ccatcccctc ctcccagcca gtgaggtctt tcagaaatgct gttgttagag tgaagatag 4080
aaacatcttt gatattgttt taccagtaat tgtcaggaga ctgttctcta atgtcggtat 4140
ctgtgttgat aagattacac attttatcaa gagaaaactt caaccctgaa tagttaaaca 4200
gaagcgcata tagtgtgcag gttatagacc acatgtcact tagcagagag gaacactgga 4260
gttggtgtgg acaattaaga attcttgggg gattctatga ttaggtgtcc aaagtctgcc 4320
aactagtgtc tagacatctc gatttctctg tttttactct tagattccct taagtttatt 4380
ggaaaataca tttttctgga atgccttgaa aattctcagt ctgttctctga agagattttg 4440
gggaggttaa aataatttaa tatgttaaag tgcacagtaa aaatgaaata gcattggatg 4500
ttattttcaa ctctgagttt tctgtgttta gtttaagtaa aattttgtta ttgtaaattt 4560
gttaagaaac cctaattaaa gcctccttca atgtatgaaa ctcaaataca gttattaggt 4620
taggtgctaa aaaagtgtta cagctaattg ccgagacagt agaactaggt gacattatat 4680
ctacttgtaa tcagtgagga aaaataatgt ggcaaaacac catgggtactc ttaaatacata 4740
gaaagtgcc aatgaggagg aggtacactc tcaagaacct gcaaaacaaa tatgtttatc 4800
acaaaaaact agattcccac tgcatttcca gggtttcaga gactggcagc catgtcctcc 4860
agcatctgat gtatgggttt cccaacatct catctgataa aaaaaataat ttgccagtgg 4920
aagaaaacat ggtctaataa tatatatcag atatatattc tacattcata atgatacatg 4980
gcaattcatc taattgataa ttctgaaaac ctcttttgtg gcaaatatca caggcaaggc 5040
cttcattctt tctagaaatt tcggtttttc agtgtacttt cccaaactta gtgttataaa 5100
attcccagtg tttttgtggg tacatgcaag taattaaagt tttcagcaca atggccttca 5160
aaaatcatca cagccgtttc taagctgccc aaagataaag ggactagctt ccatttctga 5220
ctgaacaacc agtgcattgc tttagcccta gagagtatac atcttttgaa gtatagctcc 5280
ttggcatgtc aaaaaagaac agtggactac caaagttcag agtgatgcac ttgatgctga 5340
gaaagaaaac aaacaaagaa aacaaacaaa agaaccacct gttccatttc atagctggcc 5400
tggtactcac acctaagcca tgttattctc ttattagaca taaacaatct cacagagtac 5460
caacctcaaa gttactttga gtcaatgcaa ggtcaattta tactttgttc tcagcaaagg 5520
caaaatcaag gtcactgtgc aaccacaaaa atacaaaca ccttgctaaa tgaatggctg 5580
ttatttcttt atctagtcat aacatagtc cagcttttta acagcatcca atttagaaca 5640
aataccact acattagatc cttcccaaaa tcatctgact aaagcccag tctgtgaaca 5700
ggttctttct aacaccattt tactgagatg cccacagcc cctgacagtg tgttaccct 5760
tggtgcaatg agtagcaaac acgacttgtt tagctacaga tgtattcttg gtgctcactg 5820
actgaggggc attgacaatg ctgtgggcat agagacgcat gatttaattg atttttgcct 5880
tttagaatgt aacttttaac agtaaaatag aaaccacaaa aactatttgt aggggtattc 5940
ggaaagaagc aaaatgtaag caattgaaac ctaatgtatg gaattgacaa ggggacacag 6000
aaggaaagta aagagaatag gttagtggat tagtattcct gtgcttaatg gaggacagat 6060
tactacaaat gaccctggaa ggcagatgg ggtggaggat caggtaggga ggactcggtc 6120
tttaagcttg aagggcaaag ggaacttcag ctgctatctc ccttttgctg gctgctgtag 6180
agatacagtt tcatctcatc ttcacaccag tcctgcaagg tggattttac caccatcacc 6240
accacttctt gacatgaaag atggagaaat caggagctgg agagagattt taaaataaat 6300
ccaactacgt agagtgaagc aacaggtgta tcaggatctg agagactcca aatttcgtgg 6360
gcaagacact acaccactgt cctctaataa ctacagggtg tttgcacacc agtggaaga 6420
aatcttttta aatggagagc taagccaagg gaaaaataa atggagacta aattttttta 6480
atattgtatt ttaaaattag gaaatgcaat aacacatctg tggttaaatg ttgtttatta 6540
ttttctcatt attaaagagt ctctctgttt ttttgaaaaa aaaatttggt taaaacttca 6600
aaaattgtgt aaccggcaaa tgttacagtc tctgaatata atactgctat agtgagcaaa 6660
ttttgttctt gaataaaata actttgaatc tggttccttt agtatatttt aaaccagcct 6720

```

cataaactac	ttaattaaat	aataatttctt	actctacttc	ttaatatgct	attaagggac	6780
attctacaaa	ataagtgatg	agtactcctc	aaaactgcca	aggtcattaa	aaacaaggaa	6840
agtatgagaa	attgtcatag	ccaagagttg	cttaacaaga	tatgacaact	taatataaca	6900
ttataaaactt	ggatatcctag	atggaatcct	ggaacagaaa	aggaattagg	tgaaaaataa	6960
gggaatttga	ataaattatg	cactctagct	aataataatg	tatcaatatt	ggttcattaa	7020
tactaatgca	agacattttac	agtgcacatt	ggtacgttaa	tactaatgta	agacattaat	7080
actaataatg	taagacatta	ataactgggt	gtgggggtaca	tgggaatttt	gtaccatctt	7140
cacaattttt	ctataaaaatc	aaaactgctc	taattttgttt	aattaaaaaga	gattcaccag	7200
ggttaagaaa	aaaattatatt	tctgtcatga	agtgttttat	tttctgcaaa	atgattttgt	7260
tttatttagg	agtggtagtc	tgcttaagat	ggaaaaatac	atgatgatgg	tgcatagtgc	7320
ctccatccca	agcttgctaa	cattaaccct	tttgtggcat	tatccagctt	tccatattgt	7380
cttttttaag	ttttatttta	ttttatttta	agttctgggg	tacacatgcc	agatgtgcag	7440
gtttgtttaca	taggttaaag	tgtgccatgg	tggtttgctg	cacctatcaa	tccatcacct	7500
aggtattaaag	cccgccatgc	gttagctatt	tttctaatg	ctctccccac	tgccctcccc	7560
caataggccc	cagtgtgtgt	tgttccccctc	cctgtgctcc	ctgtatccat	atcatgaaat	7620
atttttaaagc	cacaggaaaa	aaaagagaaa	aacttaatatga	acaccaagtt	acctccttcc	7680
aactttatcg	tatcttaaac	cctatgccat	acttgctgga	actttttgtt	ttaagaaatt	7740
aaaacatgca	gatacagttc	aggggccctc	tgagcccctc	cccagtctca	ttccacttct	7800
tttctcaga	ggtaaccact	atcgtttaatt	cagtgccttat	cagtttcagg	taagtcttta	7860
tatttctact	gcgtatctat	atatctacga	acattacaaa	tagtgatttg	caggtaacac	7920
aatttacata	aatggtagca	tacagtagca	ttctgaaact	ttgtcttgtt	tgtttaaaact	7980
tacgttttgt	gagatttatc	catgccaat	cattgatttt	aatggctaga	taatatcca	8040
ctgtgtgtct	attctataga	ttattgaatc	aatctcttgt	tcatttgtat	tttctcctag	8100
ctttttgttt	ccaaagaagt	actgcaataa	acaagcttac	acatatctct	gcatgcattt	8160
tctgagtttc	aatctcggt	gtatcactta	ctaacttgtg	ctcttgagct	tgtgacttag	8220
tccttcatac	tttagtgccc	ttatctggaa	aacggggata	gtcataatac	ccatctcagg	8280
aggctgttgg	gaggttttat	ggcatagcat	gtataaagca	tttagaacag	tgccctgccac	8340
gtattaaatg	ccatttcatt	gttaattatt	ttttaaattg	ttgaggaaaa	taccagagaa	8400
ggatattctg	ggatctgggg	tattaacatg	tttagccttg	ctagatat	ccaaattgct	8460
atccaaagtc	attcagtc	tttatattct	cattagctgt	gcagaaagg	actctttcct	8520
ccacatctta	acaacacttt	gtactactgg	atatctcatc	tttgccaata	tttcaatgaa	8580
tagttttagt	attcactgct	gatcattacc	ccaaatttat	tcattagggt	tgcaaaaataa	8640
tgattttttt	tttaattttat	aggttttcaa	aacaggaatg	gataatgatt	tttactgaat	8700
actttttgca	tttatgaaaa	tgattaatta	ttttttacct	ttaaataatca	ttgcattcct	8760
gggatcaaca	ttgcttcatt	tttttcataa	actgctgaat	tatgtttaac	atattttatt	8820
tatcatttta	aaatctgttt	tcagaagtaa	ttataagcct	atttttatcc	ttctttgttt	8880
tgatgtcaaa	attatacttg	ctttataaaa	tgatttgggt	agcttttctt	atttttcttt	8940
tcaccaaaaac	tatttatata	agattagaat	tatctactgt	ttgaagtgtt	ggtaaaattt	9000
gcctgtaaca	ttatctagcc	ctgttggttt	ttgaggtggg	agacttttga	atattgaaac	9060
aatatttttaa	tagccattac	tttttaagtt	ttctattcct	ttataaacia	attttgataa	9120
ctcatatttt	tctagaaaat	taatcttaac	ctgggttttca	aattttactac	catgaaatta	9180
cttagtattt	gcttatgatt	taaaacttta	tttatttttac	ctttcccat	ttcaattagt	9240
atttgtgatt	tatatctctt	ttcttcaaca	gtcttattga	cttgcatgtt	tttagttttc	9300
aaaaaacaac	ttttgaattg	atatactctt	tctactgttt	ttcattttat	tttgttttct	9360
atcttataaa	tcttgcat	tttaggttct	tgattagaac	ataattcatt	cattaatctc	9420
ttaaaagcaa	aatgcattta	tctttataaa	taaatcttga	agtatctttt	tagctgtagc	9480
ccacaagatt	ttacatat	atcaccatat	tttaaatatt	ttctatttct	gtcatgattt	9540
catccttaac	ccatat	ctgcata	attttaaagt	ttgtaacaca	cacaatttta	9600
ctgagtatat	gtgtgtgtgt	tttactagt	tttaattttt	tagtttttat	tttaattgcat	9660
tgtagaata	tacaccctta	agaataaaca	caatatagag	aaatacatag	tttttcattt	9720
gtagaaattt	tttatggctt	atlaaatgggt	aagtttttata	aaaatgccaa	atgtaattga	9780
aaaatgtctt	ggttgcagg	tccatagtaa	tgaaatttgt	catgaaaatc	tatcgacatt	9840
gtgttiacaat	tataattaaa	tatatatttg	attaaatcaa	atgaaattgc	caacatttaa	9900
tcttttttta	cttagaaagt	tcaactaata	tatgaacaat	gttcaaccaa	attttaagaa	9960
aaattttatg	tagtaaat	cataaaatta	cttatttttt	atttgaaaag	cttttatgtt	10020
ttctaatttt	ttgtctgttt	atcagtttct	aataaagttg	tgtttaaat	tttcattaca	10080
gttgagggt	atgtgtgtgt	agggtgtctg	gtatatacaa	tccaataatt	gatttgtctt	10140
ctagctggat	tgtactttta	attattatat	gtcctttatt	atatccatta	ttgttttgaa	10200
catggattct	atttttctga	cattaacata	acagctttga	gacatcagta	tttgcattgac	10260
gtatcctttt	caccctttta	ttttggacca	tttttatgat	tttataaatt	atttcattta	10320
taataagtat	atgtctggat	tggctgggtg	tggtggctca	tgccgtgta	ctcagcactt	10380

tgaggaggcta	aggcagacag	ataatcagag	gccaggagtt	tgagaccagc	ctggccaata	10440
tggtgaaact	ccatctctac	taaaaataca	aaaatgatcc	aggcatggtg	gctcataccc	10500
gtaatcccag	ctactcagga	ggctgaggca	ggagaatcac	atgaacccaa	gagggtggagg	10560
ttgcagttag	ccaagattga	gccactgtac	tccagcctgg	gcaacagagc	aagacttggg	10620
ctcagaaaaa	aaaaaaaaagt	gtatgtcttg	acttttaaaa	attcaataaa	ctgacctgtc	10680
tttttttaaa	aaacagcctt	ttgagggtat	aattttacata	tcacagagtt	cacctatgta	10740
aagtattcaa	tggttttcaa	tatattaaca	gagttgtgcg	accatcacca	taatctaact	10800
ttagaacatt	ttcttcatcc	ccaaaagaaa	ccttatatct	gttaccagtc	actcctcatt	10860
ccctccccc	ccctacccct	accccagcat	taggcaacca	cttattttatt	ttctgtccct	10920
atagatttgc	ctatcttggg	catttcatgt	aatggaatc	atacagtatg	tggtcttttg	10980
agaccgtctt	ctttcacgta	gcatgatttt	gagggttcac	tgtgtagcat	gtatcagtac	11040
ttcaatctac	atacattttac	cgtaattact	gaaccgtttg	gactattttc	aataatattc	11100
atztatgttt	tctgtttgtt	atgctttttt	tagtttcttt	agtttttttt	aacttttgtt	11160
ggattgatga	cattttctac	atacttagtt	tttaatcctt	tgcttattta	gaaactatag	11220
attttactgg	tactttttca	ttgctttttc	ttaaaatttt	cagatattgg	ttgaactttg	11280
ttcagatatt	agttgaactt	tgtaattaaa	aaatggttaa	atattggcaa	tttccttttg	11340
tttaatcaaa	catatattta	attatagttg	tataaatatg	tattttaatta	taattataaa	11400
acaatgtcct	cagattgtca	taacaatgaa	cttaacatac	tttatctgca	tatcgaacac	11460
cttatcttgt	gttcaagtta	cactcatatc	tacatactgt	gtagagtttt	aattatgttc	11520
ttttgaaata	taaaagggtta	tacttggtat	caatatttga	ttggccgtcc	tgacatattt	11580
tgtaaactct	tgtgctcacc	cttgtttctc	tctttcatgg	ctcccttctg	gatactcctt	11640
ctggctaagg	cacatcctct	agttgttgtt	ttatgcaggt	ctgtaagtgt	aaacctctctg	11700
actttgaatg	tctgtaaaga	tgctgaataa	ttttttggct	cagtgtaaaa	ttctaagttta	11760
aagattactt	ttttttctca	tcactttgaa	gacattacgc	cactgttttc	tagcctctat	11820
tgctgatgag	aaaacttctg	tcagtctggt	cctttatatt	gaatatgcat	tttccctttt	11880
cacagtgttt	aggatggatt	ttgtttattc	ttgatgcttt	actacagttt	gattcttgaa	11940
caacacaggt	tgcaactgtg	gagggtccact	tgtatgggga	ttgttttcaa	ccaatctcag	12000
atgaaaaata	tagtattctc	aggatgcaaa	accagtggat	atgtagagcc	aatttttcct	12060
atgcacaagt	tctgcaagcc	aactgtagga	cttgtgtata	cctggatttt	ggtatatgca	12120
aattttggta	tacatgggag	tgctagaacc	aatctcctgc	atatactgag	ggacatttct	12180
atataatgta	tctaagtttt	gactgatatc	tattccaatc	aattcttggg	gtctactgtt	12240
aatttgaaga	atcaggtaat	tgcttctgga	aaattcttag	caattatctc	tttaattatt	12300
acacttctgt	cattctccac	tctctgcttc	tgggattcca	attaggtgaa	tttagaagat	12360
tttcataact	ccccctttct	ctcttttatt	tgtacatgtg	tgtatatatg	tatgtaatac	12420
atatcacggt	ctcctcctgt	gacctccatg	ggtctgcatt	tcatacataag	gaatagatgc	12480
ttcaatgggt	gccagcagtt	tcctcagggt	cttctcagca	gtgcatgggg	cccacattag	12540
ctcctctggc	tccaagcgaa	gagatgggtc	ctagccccct	gtttgatttg	gggcacttac	12600
agtcctctcg	ccagctaaac	tctcacactc	gtcagcatcc	agacgctgag	gggaaaatac	12660
cagctgcttc	tgtgctctgc	ttactcttcg	gtacttctct	gccatttctg	gttcctgaag	12720
atgtttattt	ttatttattt	gagtctgact	gtatctcttt	ttaaaaacat	gttatccacc	12780
attgctatat	atttgaagca	gagaaagtta	gtgaagcata	aacttcatgc	tgaatcgagt	12840
gtctatatcc	tggaattctc	agcctgtacc	ctctataaac	taatttttcc	actgtgaata	12900
agactaatca	tgactctgtc	gacatttaca	ttttatttag	aaaatgtctt	ccttctgttc	12960
ctttgatcca	agcttgactc	accttacctt	gagggttgc	ttacaaagga	acactgaagg	13020
ttaccaaca	gtatgtgggt	gtcgttcac	aactacagt	actcaagaat	atcaccagtt	13080
ggtttgcctt	tctcatggtt	ttaatgtttt	ctcattaaaa	ataaataaag	cacagataag	13140
cagaaagaat	aaccatccat	ccaacaacta	gaggaaaatt	tatcaatggt	tttgctttat	13200
ctttcctata	attaagctat	aaaaaacaac	catccatgta	acaactagag	aaaaccttta	13260
tcaatgactg	tggcttatct	ttcctgataa	ttaggctctt	tcagggagtt	attaaccgat	13320
tttaaaactt	ttgtctgaga	ttgattagta	aagattattt	cttgaaccaa	attgttcttt	13380
cgtttggtta	ctttgattaa	agaagaaaga	agagataata	attgcaatga	ttcttttatt	13440
ttattttata	gggtcggttg	ctgtgggttg	caattaccat	gtctgactca	gtaattcttc	13500
gaagtataaa	gaaatttgga	tcttgtaaaa	ggagaggtga	gaacaaaagt	aggacaagct	13560
ggcttttttc	cctcactgca	aaaaaatca	gcaacagtag	gtagaagtat	cattgtgtgt	13620
ggtcaagttt	caaggagcag	tggtctctcc	tagaatccat	gtaacgtaat	atctgaaagc	13680
gattcttata	cacaactgtg	gtgtgtgtaa	atgaaagcat	ctctcaccaa	cacctttcct	13740
actaggttaag	aacacaccaa	agtgtgtggt	gttatgacta	ccttttagtcc	tgtattgtta	13800
agatagagta	gggttggtcc	agcgtctctc	cttaggaaga	actgtgccc	gactctgcag	13860
ttattaatca	taattgagtg	agggggccta	tagcactagc	acctgggatg	tcctgggctc	13920
accagaatga	gatcatgtgg	tttctaacc	tatgatttta	catttttacag	atgacaaaac	13980
agatggttct	aagctattgt					14040

tgagacttgg	atatgttttt	gaaacttggc	aaggaactca	tgagtaaaat	taatggaacc	14100
ataattctaa	tccagttgtg	tttgattccc	aagcccaaga	tattgcccgc	tgtcaacatt	14160
atcatgcttc	tttactttta	taagagtaaa	caggcatgat	agtgttgaat	gacaaagctc	14220
cctagtggct	tccttacacc	cctggctata	atcactgact	ttcacctcct	gccctgcata	14280
tattctgacc	tacactgggg	aaaacagtat	gtgggtctca	tcctatggct	tctactagt	14340
tagaagtgtt	aatgacatct	tgttattaac	atcttattgt	taatttgtgg	tctatatttt	14400
aaacagataa	attctgatgc	ttttaaagaa	ccagacaata	aataaatatc	aattttattt	14460
tgtagttaa	aaagttgctg	tccatttgat	attcagatga	tgcaaataat	tcatgtcctg	14520
aagaaaagtc	cataaatgag	taaaggtagc	agcactcctg	gaccctaaac	gagtgtcttc	14580
gtgtgtgtgt	gtgtgtgtgt	gtgtgtgtgt	gtgtgtgtgt	gtgtagaaag	atagagagag	14640
acaatatgag	caggaagaaa	gaaaaggcaa	atagtcattt	gctaataatc	catgaataaa	14700
ggtaatttat	aggaatat	ttctagagca	aatttcttaa	tgactgcgtt	gcattttgtc	14760
attattatta	actgcttttt	tgcggttgatt	ttttttctg	acagataata	atgataagaa	14820
atcaaggtaa	gtgactgatt	tcaacaatgc	agcatctttt	ctagaataac	tccataatat	14880
tcatatcaaa	ggcacaaaagc	agagaatact	ttcatgcaca	ttgcacttca	tataaaataa	14940
tatatacaat	ccattctttt	tctcttttaa	atattactat	aatttgattt	taaaaacctt	15000
ttggaatatc	ccttctaggt	taggttcaaa	tgtcccctct	gtattcagga	atggcacaga	15060
actcctgacc	taagagggag	gaggaaaagt	tgaacaacaa	gtataatttc	atgggcattg	15120
gagaggtctc	taaaccccaa	attcttgcca	caggcaaaga	gtagagacct	aaagtgtcat	15180
tattgcatat	ttctgttcag	ctaaagattt	tgaattctca	tatagaacac	atatcagcta	15240
atcacagtct	ggtatgaagg	cgggattaga	tgaggtctaa	tttagaagac	agaagtgagg	15300
catcaggtaa	gttcttgaag	tggaggtggt	ggaaacggaa	gggttaaagg	tatttttagaa	15360
attttaagta	attcacagca	gagggaggaa	gtgggagtgg	taagattagc	tttgggctgg	15420
gagtggtcag	gtcagcctgg	gcctctgaga	gccacacggt	tcttattgct	tgggaagttt	15480
aaaaaatggg	tgtggatgta	gatgaatggc	aaggagagga	tgagtaggaa	gttgaatgag	15540
ttgctttgtt	tttagaggag	gtgagcatgg	aatgagaaga	tcacagcaaa	ttttgccaga	15600
gctgctgaga	agaatgggag	caatccgcag	agaaatgaag	tgtgcattgc	atgttgagct	15660
ggagagcaca	cattcactcc	attaattcat	tcgttttgca	aatattgagt	gtctattttg	15720
tatcagacac	tattgtaggt	gctgcgggta	tagaaaagaa	caaaataggc	aaaaatggtg	15780
gcccttgagg	agtttacatt	ttagtggagg	agatataata	aacattgtaa	ataaatcaaa	15840
tgtatgcat	ggtagctagt	gataatctat	cactttcttt	ctgagaagga	aaaataaact	15900
ggaaatggag	ctatgaaatg	gtgcgtgggg	ggtgggggtg	aaatttttaa	gactttggcc	15960
aggcaagact	ctgttgagta	ggtgatttca	aaggaaggct	tagcggaggt	gatggagctc	16020
tccctgtggt	tacctaaaga	aatgacacct	ggggagaagg	agtagcaggt	gcccgcaccc	16080
agaggtggga	acagttgggc	atggacaaag	gtcagcaaga	ggccaggcaa	gtggggtgtt	16140
gagaactaga	atatagttgg	aggaggtgag	gtcagagagc	caagggccag	accgtgggga	16200
gtctcagaaa	aaatttagga	ttcttttctg	ggccagaagg	gaagcttagg	gcagctgagt	16260
actagactct	gcctgtgttg	gtatccattc	acaaggtggt	gaggttgtgt	ccagcaggcc	16320
cagcagcctg	gcttaaggag	aagagggcaa	acagctggat	ggatgcagga	tgaagtttac	16380
aaggatgatg	tagagaaaat	aattgaggat	gatggtgaga	gtgtggttca	aatgcctggc	16440
agagggacct	tggctgcatg	gggaagggaag	caaaatctta	atgggggtta	gcaatggaag	16500
gaaatgaagg	atttaaaagg	ctgcatggct	caagtgaggt	tgacaaatag	gtgtggaagg	16560
aggaagggaag	cgagaaaatg	aggtacatgg	gcagtcacag	agtgccaaag	agttaaacad	16620
gtcagacagt	agttcctggt	gacagcaagg	tccagggtgt	attcatggac	tgcgtgactc	16680
aggttaagtc	aagatccccg	aagttgaaga	ggtcaaatac	aggttaaaca	tggccttatg	16740
ggaaatgaaa	tgaatgggaa	atattaagga	aatatgattc	tatgaaaagt	gtgggcatgt	16800
tcttgaattt	ttcatcatta	tcaacattat	ttaatgtagt	tgtaatattt	ttaagcatga	16860
ggaagcttta	aaattagcta	atccaaccac	ttcaacttac	ccatgaggaa	atgcagtcac	16920
aaatagattg	agggtcatga	ctgagggcaa	agagttattt	gttggtataa	ctgggagtat	16980
agaggacttt	ttactttctc	tccatacctc	tcagggtgtt	atctctgtga	atcgtagctg	17040
aacctgagat	tgagctatac	tgaaatctct	agaagaggga	aatctagaag	aataaagctt	17100
gtgtttaaga	tactagggtt	ggccagaatt	ttccagccag	tggggatttt	ctttcttact	17160
aaagaataac	tcataaaatc	accacctagg	gagaatttcc	cattgtattg	gaaaggggtg	17220
tctttaaatc	cttatgtttt	tctcatcagg	ttacaagatg	agaagaaagg	tgatggcggt	17280
agagttggct	tctttcaatt	ggtaataaaa	ctgtgttgat	ttatggcagt	gggtgtgcag	17340
ctataaattg	tttagatcat	gaggggagtg	ttaaatcttt	agtcataattg	gcaggttttt	17400
aacttcagtg	atcacttttt	cagtcatagg	ctttgcctat	gtgataacat	gctgaataac	17460
tattagaaat	atattgctca	taaagcatac	aaatcctatc	caatagatca	gaaaaatgtc	17520
ttggaaaatt	atcactaagc	ccatggttat	catatttgta	aggaaagtca	tcacaacaat	17580
cacatatata	tattttattct	tatgacaaat	ctttagaaat	tttaaagtat	aggtgtttac	17640
tccaaatttt	ctcaggatgg	aggcattttct	aggcagaaat	tggcattctt	catagtcact	17700

atcagttcaa	caaaacaatt	tatagtattt	ctcaatgccc	cacacagttt	atctacttgg	17760
caatggcatc	aatgacagtg	attattttcc	cctaagttgt	agatgagtag	ctaaaaacga	17820
aagtgcagctc	ctgaaataaa	cagaatgaat	tcagagagca	ggaaatttat	aacatgatct	17880
aacaatgtaa	gagtctaata	ttttagataa	ttgatgtacc	gtgccgttta	tttcaatata	17940
attagtatac	gaactctgcc	actcaattaa	ggtgattccc	atgaaatttg	gtgttgagta	18000
ctattcatga	gaatctagta	actaaaattaa	gtagtcctcc	tacctctcct	gctcttcacc	18060
catagatgat	ctctgaaccc	tttgtttttc	aagtttcggt	tttcttcac	aactgacatt	18120
tggctgatgt	ttgtgggaag	tttgtgtgca	tttctccatg	gaatagccca	gccaggcgtg	18180
ctactcattt	ttggcacaat	gacagatgtt	tttattgact	acgacgttga	gttacaagaa	18240
ctccagattc	cagggaaaagc	atgtgtgaat	aacaccattg	tatggactaa	cagttccctc	18300
aaccagaaca	tgacaaatgg	aacacgttgt	gggtaggttg	tttttgtttt	taatttttta	18360
cttttttgct	catatcttaa	attgtaattc	aaaaatgtata	gaggggattt	tactggctga	18420
gctggagtg	tatctaacac	aaagagaata	gaaacatgag	tttaccata	tttctagaaa	18480
ttactctgcc	tcaagtttcc	ttctatctta	ctatgtttta	aaatcttaat	agaaacagga	18540
ttgaaagtca	ctcaccaa	acattgccaa	aatgttacca	ctttattgag	tataggcttg	18600
agcatgacac	taccaatact	taacgtcact	agggaggtga	cccatgaatt	ttacttgagt	18660
atcatctcca	agagttctat	ttttccccc	caccaactcc	cctctgcccc	ttagctttgt	18720
ggctgtggct	ggtgatccac	ttgatcttaa	cccttccatc	tgtaatggga	atttcatgaa	18780
caggctgcat	tactttgagt	aaggtacact	agtctcaacc	agtagttgag	tttgtttttt	18840
tcttttttct	tttttttttt	tttttaagat	ggagtctcct	tttttgccca	ggctggagta	18900
cagtgggtgtg	atcttggtc	actgcagcct	ctgcctcttg	ggttcaagtg	attctcatga	18960
ctcagcctcc	tgagtagctg	ggattacagg	cgcccgccac	tatgccagc	taaattttgt	19020
attttttagta	gagatgggg	ttcaccattt	tggacaggct	ggtctcaatc	tcctcaggct	19080
atctgcctgc	ctcagcctcc	caaagtgtc	agattacagg	cgtgagaaaa	ctagggcagt	19140
gctgtgatca	gaggcaacca	cgcagaagta	gccagaactc	acacagacac	agtcactatg	19200
ctactgtttt	ctttgtgata	agcctgacag	gccaccttgt	aatcagtgag	tctgtcgtgt	19260
actcagggtc	gactcactgt	catagcatgg	cctttgcagt	gtgcctcatg	ctggctcaag	19320
ttcagaacag	cttatttgca	cataggaacc	cacatattca	ggttcaagaa	tcaagggttg	19380
ggcacatctt	ggctagaaag	acactaggaa	tggctccctc	agaggaaatt	atagttttca	19440
ccttcatttt	tgaaattttc	tataggcttg	attccagact	atgaatgagt	ccttctaaat	19500
cattgacact	cttcataat	attatctctc	ttagggtcct	tcattcattt	actcattcaa	19560
ccaaaaattt	tttaaacatc	aaatatacca	ggaactcatg	aaagcatcaa	ggacacagtt	19620
gtcttaagag	catggtccta	gccaggatg	gtggctcatg	cctgtaatcg	taacactctg	19680
ggagggtgag	acaggaggat	tgtttgagcc	cagaagttcg	agacaagcct	gggcaacata	19740
gtgagaccct	gtctctacaa	aaattttttt	aaaaaatagc	ttggctttgt	ggtgtgcccc	19800
tgtcatccca	gctacttgag	aggctgagat	gggaagatca	cttgggtctg	ggtgtttgtg	19860
gctgcagttg	gctgtgatta	catgggtgac	agaatgagac	cccatctcag	aaaaacccaa	19920
agagtcatga	tcctatctg	tgtgaagctt	aagcctagta	agccatcatt	cagtcaatga	19980
tcatttataa	acatatgcag	tgacagactt	ggaggtagct	gacagaaaac	acaggataat	20040
atacaatgtg	aattattctt	tataaacaac	aagcctactt	attctatata	agttccctaa	20100
tgtctaaata	tgtatgtttc	ttttctaaaa	ttggaagttt	cttttcattt	gacaaactca	20160
gagcaatttg	tataaaagag	agattgagtt	caacaaaagt	ctttgaaatc	cttcattttat	20220
gcgggaggac	agaagtgaac	tgctttttac	agaggggttt	gaccacaaaa	cataagatta	20280
atcattctcc	ccttgaggaa	aaaaatgcat	tcagacctat	gtgtgatgta	aattgaccca	20340
agccacggat	aacacttatg	aggataagtt	tttgaggaaa	aggtcctcaa	gtatatctta	20400
tcatgcctta	aaatttgga	ataaatgtga	gaggagccaa	aatttgaggc	atatacatga	20460
tactaggtgc	ttatgaatat	ttatccaatg	aattaaagaa	tgaatctact	ttcaacattt	20520
gcatcatagc	catctattaa	aaaggaattc	tctgtggcca	ctcattactc	actgtcttca	20580
ttgttactgg	atcacatacc	tgaaggcgag	caaagaatac	aaactgaggc	tttcagaagt	20640
ccactggctt	tggctgaatt	cacgtaatac	caaagtgtga	tggacatttg	tccttttctt	20700
tttaaaaaaa	ttcatacaga	tagctgaaat	tgtatagact	atacctttct	aggcattttct	20760
ttaccaggaa	ctccttgatg	agttaaatac	tgtcatcgtg	agttattgtg	atcattgaca	20820
tgaatactat	ttgttctatt	ctgaataaca	tgtttgttta	gctgttttat	ggtaagatca	20880
ccgcgatctt	atgacttggg	tgggacagag	gagaaaagag	aggacatttt	tctacctgta	20940
agtagtttat	atacctccaa	agtcgcccac	actgtttgca	ggtttctttc	gtggaaaaag	21000
tatatcatta	aaagtacagt	ttctcctttt	attacaatag	atgtattagc	cttagaatat	21060
acaagacaac	ccaataattt	tagcaacaaa	agcatgtgtg	tgtaatgaca	ggagctgggt	21120
ttactatttt	attatatgtg	tttccacatg	tcaattgtaa	tctagtagat	ggaattttta	21180
agttaaagcc	ttccagatgg	ctgtcagtga	attacactga	taaggattac	agagtgtcag	21240
gtctcttgat	tagcttatca	gaatttctgg	tcagaacagt	cgaataatag	ataaaaaaat	21300
gaaagcagat	gaaggaatag	gaagttaaaa	taccacagtt	gcaatttcat	tttattttct	21360

tttatccaat	taaagtgtaa	acactcaa	ggaagccaca	aagtctcgtg	taacttaatt	21420
gtagaagaga	catactgtaa	tttctgccat	attctatggg	tcacagaaac	caaccctggg	21480
gtaatttgga	aggagtctaa	acaagtgtga	atattgccag	atgagaat	taggggcttt	21540
ttggaggctg	attactactg	cgggcattgg	ggagctcaag	tcttcacttc	ctctcataca	21600
gataaatcaa	tgcagaaatc	taggcctgtc	ctttcacttg	gatttcagtc	tatgttctta	21660
gcaatatata	ttcagtttgt	ataagcaagc	actat	agctagacag	tttaggctat	21720
atacttttgt	aatggctttg	ttgagatata	attcacatac	tataaaattc	accactcga	21780
agtgtacaat	tagatgtttt	ttagtatatt	tacagagttg	tgcattcact	gccacagtca	21840
at	ttttctttt	ttttcctttt	ttttaattat	actttaagtt	ttagggtaca	21900
tgtgcacaat	gtgcagggtt	gctacatata	tacacatgta	ccatgttggg	gtgctgcacc	21960
catcaactcg	tcatttaaca	ttagggtatt	ctcctgatgc	tatccctccc	ccctccccc	22020
acccacaaac	aggccccagt	gtgtgatgtt	ccccttcctg	tgtccatgtg	ttctcattgt	22080
tcaattccca	cctatgagtg	agaacatgta	gtgtttgggt	ttttgtcctc	gcgatagttt	22140
gctgagaatg	atggtttcca	gtttcatcca	tgtccctaca	aaggacatga	actcatcatt	22200
ttttatggct	gcatagtatt	ccatggtgta	tatgtgccac	at	tccagtctat	22260
cactgttgga	catttgggtt	ggttccaagt	ctttgctatt	gtgaatagtg	ccacaataaa	22320
catacgtgtg	catgtatcct	tatagcagca	tgatttataa	tcctttgggt	atataccag	22380
taatgggatg	gctgggtcaa	atgggtattt	tagaatttta	aaacattttc	attactagaa	22440
aaagaaacc	cttgccctc	ggccatcact	ttctagtacc	tcacctcct	ccctatccct	22500
aggcaacact	aatctgcttt	ctgactgtag	at	tctgaacatg	tcataattaat	22560
aatatcatat	aatatgtgat	cctttgagat	tggcttcttt	aacttaagca	tgtgtttttt	22620
gcagttcatc	cacatgtatt	tttattgcta	aataatattt	cgttatatgg	atataatata	22680
tgttatgtat	ctgttcatca	gttgatggac	at	ttcccacttt	tgagctatta	22740
caaataat	tgtgtgaac	at	agatttttgt	gtggacatgt	cttcatttct	22800
cttgggtaca	tgtctaagtg	tggaattgct	gtatcacatg	gtaactctat	gtttaactat	22860
tctaggaact	gccagactat	tttccacagt	ggctgcacca	tttacatttc	tgctaacagt	22920
gtatgagggt	tctaatttct	ccacatcctc	accagcactt	gttatttagc	atctgtgata	22980
tctctcatag	gtagaataat	gacccccaaa	gatatccagg	tccttatccc	tagaacctgt	23040
gaatgttacc	ttgtatggga	aaaggggtcta	tgcagacgtg	attcagttaa	caatatcgag	23100
atgggggaga	ctatcctgga	ttatccagggt	gggccctaaa	tgcagtcag	tgtgttctta	23160
aaagggatgg	ttgctaagaa	gaaggcagag	ggggatttgc	ctgtagagag	aagagtagag	23220
gcaagggtgac	tacagaaaaa	aagaatggaa	tgacattgcc	acagccgagg	agtgtcagca	23280
gctatcaaga	gctggaagaa	gcagggggaa	atttctctct	tagggcctta	ggagggaa	23340
cagccctgtc	agcaccttga	tttccaccca	gcgaagctga	ttttgggcat	gtgaggggat	23400
acatctctct	tgttttaatt	gtggtaattg	attgtgggtt	tgatttgcag	caatacaata	23460
gccatcctag	ggagcaggaa	gtggaatctc	ttgttggcca	tttgcacatc	ttcttcagaa	23520
accagtgatg	tttggcttct	ttttagggtgc	ttgttggcca	tttgcacatc	ttcttcagaa	23580
aaatatctat	tcagatcttt	catttggaaa	ttaataatat	aacaaaatat	gtattcagcc	23640
ctttttaaaa	ctgggatata	tgtctactga	ttattgagtt	gtaggaattc	tttatataatt	23700
ctagatataa	gttcccttct	agagatacaa	tttgcaagca	at	ttctttgggt	23760
tgtctttcta	acttcttgat	aattatcttt	gaagcactga	agtgtttaat	tttgggtgatg	23820
tctagtttgt	tcttttgggt	cttctgaatt	gggtgcata	ctaagaaacc	attgccaaat	23880
ccaaggctct	gataattacc	tttgaaccac	ttaagtgttt	aattttgggtg	atgtctagtt	23940
tattcttttg	ttgcttctga	attgggtgtca	tatctaagaa	actattgcc	aatccaaggt	24000
cgtgaacatt	acacttgttt	tcttttaattg	gctctggcca	tgtgaagtgc	cagcttcccc	24060
ttcatcttcc	agtatgagtg	ttaatttctc	aaggccttcc	cagaaactta	gcagatgctc	24120
taatccttcc	tgtacagcct	gcagaattgt	gacccaacta	aacctctttt	ctttataagt	24180
taccagctct	cagggtatttc	tttatagcag	tgtgagatga	actaatacac	tcacgggttag	24240
tctacgatcc	actttgagta	aatttttgta	gggggtgaatt	aggggtccaa	attgattcct	24300
atctgcagtg	atagccagtt	gttccagcat	catttgtgga	acaactat	tttccccatt	24360
gattaatctc	agaatcctta	tcaaaatcaa	tttactgtaa	ttaagagggt	ttatttgtgg	24420
actctcaatg	ctattccatt	gacctacaca	tctacttcta	tgccagtaac	acactgtttt	24480
gattaccgta	gttttatagt	aagttttgaa	atcaagaagt	gtgattctac	tactagggat	24540
tgtctattct	gggtctcttg	gattttcata	ttaattgttt	aacttctgca	aagaagtcag	24600
ctagaatgct	aggaattgca	ttgactctgt	agatcagttt	aagggaatatt	gcoctcttaa	24660
caatattaag	tcttctgatt	cgtgatccac	ttatttgcgt	ctgctttaa	ttatttcaac	24720
aagggtttat	agctttcaga	atattttgca	at	aaattgattg	ctacgtattt	24780
tattat	gatgttatca	taaatggaat	tgttttctta	at	cagtttgc	24840
attgctacta	tgcgaaaata	caactttttt	tgtatattga	tcttttatcc	taaacctagc	24900
tgaactactt	atgagttcaa	tagtttttta	gtgggctctt	taggattttt	tatacaagac	24960
catatcatct	gcaaatagaa	ataactatac	at	ccaatctagc	tgctttttt	25020

atattatattt	atattatattt	atattatattt	attgcctaatt	tgttttggcc	caaacctcca	25080
gtacaatggt	gagtagaagt	ggtgagagca	cacatccttg	tcttattcct	atccttagggg	25140
gaaagcattt	agtctttcac	cattaagtat	ggcattagct	atgacttttt	cacaagtgtc	25200
ctttattatg	ttgaggaatt	cccttctaatt	cctagtttgt	agagtgttct	aatcattaag	25260
tcatgaattg	agtcattgtc	ttcatctaca	tctattaaga	tgatcatgca	gttttgccca	25320
ttataatatt	gatattggtat	attacatcaa	tgtatattca	tattgttcaat	tacctttgca	25380
ctcctggaat	aaatcccacc	aggtaataat	gagtaatcat	tttactatgc	tgcaggattc	25440
aacttgtttg	tatttagtga	agatttttgt	gtctatatta	ataagagata	taatatataa	25500
gagttttcct	ctcttataat	gtctttgcct	gcttttggtt	tgggataatt	ctggcctgat	25560
agtttggcag	tgttcccttc	cattctgttt	tttgaagagt	ttgtgaagaa	ttggtattag	25620
ttctttaaat	gctttgtaga	attcttcagt	gaagtcatct	catcttagac	tctttgttgt	25680
tgaaagtgtt	tgattgctga	ttcaatctct	ttagtgttta	taggtccact	cagattttct	25740
atgtctttta	aaatattttt	taatttggca	cataaaaaatt	atatatattt	atggtgtgca	25800
gcatgatgtt	ttgaaatatg	tatacattgt	ggaatggcta	aattgagcta	attaacatat	25860
ttactacctc	acacacttat	ctttttttgt	tgtagaaca	ctaaaaatct	actcttggct	25920
tcaggcttcc	tgggatgcca	aaaaactgtg	tgtccgcttg	ctttctcaat	ggggaggctt	25980
gtggtctggg	gcaaattttc	agccctggct	actggctgcc	tggaaataga	ttcagtgtcg	26040
ttgttggggg	cacggtgggc	atgagattaa	cctctagtac	tgcgggctga	gtgggagcag	26100
gttaaggcct	gtaactgcca	gctttccccc	acttccctag	tgacctgtat	gacttagcag	26160
aggcagccat	aatcctcctg	ggaacataac	tccattggac	tgagaaccac	acccccatcc	26220
cccacagcag	ctgcagcaag	ccccgcccac	ggagaggctg	agctcagagg	cgcctatccc	26280
tgcccctaca	tggtgggtctt	tctctacctg	ccctggtagc	caaagacaaa	ggcccaattc	26340
tcttgggaac	tctgtggccc	tgcccactgc	ttgggaaacc	tgaatagata	accaggtgtc	26400
ctgagggcaa	ctttgcattc	tccctatagg	accatagctg	atgcactctt	gaaagtgcca	26460
cctcctagct	agaggccaac	caacataaaa	ccaacacact	aaataaaaaa	acaacagagg	26520
accttcacgg	agcccacttc	actcccctgc	tgccctccacc	aggtgcagg	gctgttatcc	26580
acagctgcaa	gaactgaaga	cagatcacat	cacaggactc	tttgcagact	cttgccagta	26640
ccagcccaga	gcttggtaac	tttgcctggg	ggctagaccc	agaagagcaa	aaacaatcac	26700
tacagtttag	cttaccggaa	gcccatttca	taggggaagg	gagagaacac	cacaccaagg	26760
aagcacacca	tgagacaaaa	gaatctgaac	agcagcctat	gaatcccaga	tcttccctct	26820
gacatagtct	acccaaataa	gagagaacca	gaaaagcaag	gttctttaac	acctgaaaaa	26880
gatcatacca	gctcaccagc	aatggatcta	aaccaagatg	aaatctctga	attgccagaa	26940
aaagacttta	gaaggttgat	tattaagcta	atcaaggagg	caccagagaa	aggttaagtc	27000
caactgaagg	aaataaaaaa	catgatacag	gatattgaaag	gaaaattctt	cagttaaata	27060
gatagcataa	ataaaaaaac	aaccacaact	tctggaaatc	aaggacacac	ttagagaaat	27120
gcataatgta	ctggaacgtc	tcagcaatag	aatcaaataa	acagaagaaa	gaaacttcag	27180
agtttgaaga	catgggtttc	aaattaatcc	atcaaagaca	aagaaaaaag	aatttaaaaa	27240
atgaacaaa	cttccaagaa	gtctgggact	atgttaaattg	accaaacctt	agaataattg	27300
gtgttctcga	ggaagaagag	aaatctaaaa	gtttggaaaa	tatatctgaa	ggaataattg	27360
aggaaaactt	ccctggcctt	gctgaaggaa	gatcttttgt	ctagggatgt	agacatccaa	27420
atacgagaag	atcaaagaac	acctgggaaa	ttcattgcaa	aaagatcatc	acctaggcac	27480
atagtcattc	gattatctaa	agtcaagatg	aaggaaagaa	tcttaagagc	tgtgaggcaa	27540
aagcaccagg	taacctataa	aggaaaacct	atcagaataa	aaacagactt	ctcagcagaa	27600
accttacaag	ctagaaggga	ttggggctct	attttttagcc	tcattaacca	aaacaattat	27660
cagccaagaa	ttttgtatcc	aatggcactt	aacttcataa	atgaaggaaa	gatatagtct	27720
ttccagaca	aacaaatgct	gagggaactt	gccactacca	agcaaatcag	ggaaatgcaa	27780
atcaaaacca	cagtgtgtta	tcattctact	cctgcaagaa	tggctataat	caaaaaatca	27840
aaaaagaata	gatgttggca	tgaatgtggt	gaaaagggaa	cacttttaca	ccattgggtg	27900
gaatgtaaac	tagtacaacc	actatggaaa	acagtgtgtg	attccttaaa	gaagtaaacg	27960
tagatctacc	gtttgatcca	gtaatccac	tactattaat	aggcatgtac	ccagaggaaa	28020
ataagtcatt	atacaaaaaa	gatacttgta	tatgtatgtg	tatagcagca	gaatttgcaa	28080
ttgcaaaaat	atggaaccag	cccaaaggcc	catcaatcaa	cgagtggata	aggaaaatgt	28140
aatatatata	ttacgtatga	tacagatatg	atatatatgt	aatatatatt	acattttata	28200
ttactatata	ttacatttta	atatgttttt	gtgtgtgtgc	atatatatat	atatgcacac	28260
acacacacac	acacacacac	gcaccatgga	atactactca	gccataaaaa	ggaatgcaat	28320
aatggcattt	gcagcaacct	ggatggaatt	ggagactatt	attctaagtg	aagtaactca	28380
ggaatggaaa	actaaacggg	gtatgttctc	actcatatgt	acgagctaag	ctatgaggac	28440
acaaaggcat	gagaatgata	cattggactt	tggggacttg	gaggaaagg	tgggtggtga	28500
ggaataaaa	actacacact	ggatgcagtg	tacactgctt	ggatgatggg	tgcaccattc	28560
taaaatctca	gaaatcacca	tcaaagaact	tattcatgta	acccaacacc	acctgttccc	28620
caaaaacctt	ttgaaataaa	aattaaaatt	ttttaaaaat	aataaaatgt	acattataaa	28680

acaaaaaaaa	taaaaaatcta	ctcttttcaat	aatttttcaag	catacaaaaac	attgttacta	28740
actatagtc	gccagtaaa	tttcttgaac	ttattcctcc	taattgaaat	tttgtatttt	28800
ttaaccatct	ccctaattctc	cccacctcta	gcccttagta	actaccattt	tactctctgc	28860
ttctatgaat	tcaaattttt	tagatgtcac	atttaagtga	gattacactg	tatttgtctt	28920
tctgtgcctg	gcttattttca	cttaacatga	tatactcgag	gtgcatctgt	gttgttgcaa	28980
aggacaggat	ttttttaaaa	ggctgaataa	tattccatta	tctatatgta	ccacattttc	29040
tttatccatt	catttgttga	tggacacata	gggtggctatt	gtgagtaatg	ctgcagtgtg	29100
catgggagcg	tagatatctt	tttgatata	tggtttcatt	ttccttggat	atatacccag	29160
tataggattg	ctaggttata	tagcagttct	atttctaact	ttttgaggaa	cctacataca	29220
tatttccata	atgactgtac	taattttacat	tcccaccaac	agtgtacaag	tgttcccttt	29280
tttccacatt	cttgccatca	cttgatgtca	tccttctttt	ttataataac	cagactttgc	29340
ttcatgtgtt	ttggaggctc	tttttttagg	tgcatatata	tccataaatg	ttatcacttc	29400
acgatggatt	gaccctttta	tctttacaaa	atgattttta	tctctagtaa	caagttttta	29460
aagtccattt	tgtctgatat	tagtatagcc	actcctgggt	tcttacgggt	gctttttgaa	29520
atgattttgt	ttttctatct	ttttgtttca	acctgtttgt	atccttggat	ctaaagtgtg	29580
tctcctgtag	acagtacata	gttggatctt	gttttattta	atgcaatctg	acaatctctg	29640
tcttttgatt	gtattgttta	atccattata	tgtaaaacaa	acataacatc	ctgaaaagtg	29700
gggggaaaaa	gtcaactggc	tagagccctc	aggagccaag	taataacatg	ttgataagtt	29760
ccctgggtat	cttatgcctg	atatgtacta	gattaaagtg	tagaaaagct	ggcaaacctg	29820
aaaccccaat	gagtgcagac	caaaaagact	caacaaaatc	ctgctttttc	tagatagtgg	29880
gtcagaaaaga	gaaagcctag	tagaaaaactt	ctaagcaata	attgctctac	tctagccaaa	29940
caccacagaa	gaaaacggtg	acctcactct	cacccatgcc	agcgaatgtt	gatttgggag	30000
catagactct	tccacacttg	ctaggtggta	ataagccctt	cttgtgccac	cccctcactc	30060
accccatgg	tgtcaatgga	gaatatgtgg	gaggcctgac	tcatccccac	tatagtaagg	30120
cacctctccc	cttacctgct	gggttggggg	gacagagtca	aaacattacc	accaccgcca	30180
tggaaggggg	aatcaagaca	ttttcagatg	aaataaatca	agagaatttg	ttgccagctg	30240
acttacccca	aaagaatggc	taaggaaatg	tctttaagca	gaaaggaaat	aataaaaaga	30300
gtcctagaca	tcagggaagg	agtgcgtagt	aacaaaacta	tgagtaaata	caatagacct	30360
tccttctctt	aagctttctg	aattatgttt	tatggtagaa	actctaacac	tgtgatatga	30420
tcctactctg	acactgtctg	atgtgtgttt	aatttggaaa	tagataagac	acttattaac	30480
gaaggagagt	agaggtatgt	aatgggaggt	aatctttata	tatttcactt	gaattggtaa	30540
aatgacagca	ctagtagact	gtgaaaagtg	atgtatctat	aatgtatttc	ctagagcaac	30600
cacttaaaaa	gctatacaaa	gagagacact	taaaaacgct	atagataaat	caaaattgaa	30660
ttctaaaaaa	atgttcaagc	agcccatagg	aaggtaagag	aaagcaaaca	cagaaataac	30720
agagagaaca	aatagaaaaa	aagaaagaaa	atgacataat	taagccctaa	tatatcaaaa	30780
tataagcaag	attttttgtg	gatatagaaa	agattaccct	aaaatgttta	tgaaaatgta	30840
aaaaaactgg	aatagctaaa	ataattttga	aaaagaataa	taaagtgaga	agaatcaatc	30900
tacccaattt	caagacatat	tatatagcta	atgcagtcaa	ggctgtgtgg	cattgacaga	30960
ggacagatat	atagaccaat	ggaacagaat	ggagaactca	gaaatagacc	cacacaaata	31020
tgtccaattg	attttttgaca	aaagtggaaa	aacaattcag	tgggggaaa	ataagctttt	31080
tatcaaatgg	ctgtggagca	gctggacatc	catagggcaa	aaaaatgaaa	ttacacaaaa	31140
attttcttaa	atgaatcatg	gacttatatg	taacaaataa	aactaaactt	ttagaaaaat	31200
atggaagaga	ccattttcat	gttctagggc	tggacagagc	atgtagatga	caccaaagc	31260
acaattcata	aagggaataa	ttgataaatt	ggacttcaat	aaaattaaaa	actttgtaaa	31320
agatcctgtt	aagagaatga	aaagacaagc	tactgactgg	gagaacatat	ttgcaacttg	31380
tatatccaaa	aaaggactag	gatcccgaat	atataaaaaa	ttctcaaaac	tcagtgttaa	31440
aataacaata	gcaaatttca	gttcaaagat	gggaaaaaga	catgagtaag	gacaaaagat	31500
ggcaaatgag	cacatgaaat	atgttaaaca	acatcaatag	agaaatgcaa	attaaatcaa	31560
aatgagatat	tactatagac	ttatttgaat	ggctaaaatt	aaaaatagtg	ataaccctaa	31620
atgttgatga	agatgtggaa	gaattggatc	actctacat	cactcatgcc	attcaaacca	31680
tgtcatagct	atcctggaaa	acagtttagt	aattaaaaaa	attctaaaca	ctcaactacc	31740
atatgactca	gcattttctac	tcttggggat	ttattccaga	gaaatgaaaa	cttatgctca	31800
cataaaaacc	tatacacaaa	tgttgatagc	tgcttaattt	gtaatagata	aaaattggaa	31860
acagcccaga	tatcctccaa	aggatgagtg	gttaaacaaa	ctgtgatcca	tctatctata	31920
ttatatggaa	tcctccttaa	taaataggaa	tgaactgtta	atgatgaaac	ttgaaagaat	31980
tatgctaagt	ggaaaaaagc	caacccccaa	aggttctaca	ctgtgagatc	catttatatg	32040
acattcttga	aatgacaaaa	ttacagcaaa	agaaaaacaga	ctggtttag	ctggggctaa	32100
ggaggatatg	gggattggat	agaagcatgt	ggagatataa	aaggacaata	tgaggagatc	32160
ttgagatgat	gagaatgttc	tgatcttgat	tatatcactg	tcaatatcct	gggtgtgata	32220
ttgtactaca	gttttgcaag	atatttgcaa	gatatggctt	tagtaaatct	gtaagcttga	32280
tgtgtaaatt	gaatgacaaa	acaaggtaaa	atgaaaaaaa	aaaaggtaaa	aagtttccaa	32340

aacaaggtaa	aaagaaacaa	aaaagcaaaa	taagtcctca	tgtcataata	atttgtaaaa	32400
cgtctcttta	tcttttttcc	tctaattgtca	tctctctccc	ttcttttgcta	ttcaacaaat	32460
ggggaatcct	aattcattca	agtagattca	ggctctgtttt	tgctgtttaa	aaaatgccat	32520
tctgtggtcc	aaatcacctg	cacactttat	agaatccttc	ctgggggtttt	atgatgacaa	32580
gtgttcccaa	cattcaggca	ataaagacct	tggtatgcag	tcaagggagc	aaagccaggc	32640
ctgctctttt	ccttcctgtc	agtttttctg	ataggttttt	tctgttggtc	cagaaatatt	32700
atcaagttct	ctaaagcctt	aatcacctct	tcttcccaga	ataaaataaa	aatgagttaa	32760
ccactcattt	cagagacacc	gcaggagtga	agagagtgat	aaactgcata	tatctttatc	32820
tgcaccatcc	agcagtgata	gaattatctt	gacctttgtt	ccagaaaatc	ccagagctgg	32880
gccagtggcc	aacaccctta	atccacatat	gtttgtaaac	tggcattttt	aatgacagtc	32940
gcttcatcac	ttccgcttac	agtgtctgtg	gaataaagac	accacaggaa	atttaagtta	33000
tttattgtta	tcattttta	tgtcacataa	gtatacatat	ttatgggata	tagtgtgatg	33060
ttttgatgca	tgtatacaat	gtgtaatgat	caaatcgaat	aattagcatt	tccatcacct	33120
aagacattta	tcatgtcgtt	gtggtgagga	cattcaaaat	cctctcttct	agctcttttg	33180
aaatagtcaa	tgtattattg	ttaactatta	tagtcaccta	ctatgcaatg	tagtaccaga	33240
acttattcct	gaacagtaac	tttgtacctg	ttgaccaacc	tctccccatc	cctccccctc	33300
cactgctctt	cccagcctct	gttaactact	attctctaa	taaaatgttt	ggacaaatgc	33360
ttatagtttt	ctgggttggg	acaccccaaa	acaagctgaa	aatgaagaga	attgactcat	33420
gtatacctta	gaaagctttt	acttataata	atatagtata	ctctctgttc	agagatat	33480
agcttttata	agagcctctg	attgtggata	ttcatcgata	agtttatgat	tttctagt	33540
ttgttcatct	cagggttctt	cttagtcatc	atgaaagact	gggaatgtgg	tgagcacaag	33600
agaccttagc	tgggttttgag	gttgtcagaa	gggttgacca	cagcagttat	ttcccttcct	33660
aattagtatt	ttgaaagtca	aagcaaaatc	aggaaacatt	tattgatttc	aggcagagt	33720
accaagcagt	gtaagcccag	cccttgacct	tgagtagctt	gcaatctact	agcaagacaa	33780
gcataaatgt	actcaatata	aatatattca	ataaagatat	tgactaatag	tgacagttat	33840
tctgtattaa	atgaattatg	ttgcaatgct	tgacctgagt	tcaatagaga	aaaaaaatca	33900
agctcaagcc	acaaaaagaa	ggctgacaga	gagcggaaag	gatgtaggat	gaagaaccca	33960
tgctgaagag	gctgcttgct	gattctctaa	agtagactct	ataccattta	acttgtccct	34020
gaagatcata	actgtcatca	accaatatgt	taattttcta	attatggaat	gccttcattc	34080
ataaaagcaa	tttcagaatt	tttttttctt	ccactccctg	gcactgccaa	tcccaaacc	34140
tgtgcagcaa	catggtagt	ctgctgggaa	aaatgccaaa	gtatttttct	ttgtctattt	34200
tcttcttgct	atttcccaca	agtgtctttg	gcttcaacct	tagaaattgt	cctggtgaat	34260
gaacttaggc	tgtagtccag	aaaaagacag	ggctaataaa	atgcttttct	ctcccatggg	34320
aagataacag	gcacattttt	cagtgtcact	ctgagataga	gaagttgaaa	agctggctag	34380
cattcctaga	agaggtaaca	gtaagcctcc	tgatttacag	cacacatcgt	tctatcagtt	34440
tcttttcaga	cagcctgtct	ggcttttgaa	aatctttctt	gcctgtgatt	gctctatcac	34500
tgcatgatga	gtatgcatgg	aagagactaa	agtggaccaa	gccctgggct	gccatttagg	34560
gtaccctggc	ttccaacaac	tgctaattaa	ttatttcata	gtcctagcat	ctctgcctat	34620
aaaaatgaag	gggatatgca	tattttctgt	gattgggtacc	atgaggtctg	tttagaaatt	34680
tgggttgatt	tattataatt	ttgcatagat	aaaatgtctt	actcatgtct	aatagaaata	34740
tactatatat	agtatatatta	ttatatatta	tatatatatt	taaaatatat	atatttttta	34800
aatccctcta	tatccacaaa	tgtaatctct	ggtggcttga	tcctacttgc	aagtctgaac	34860
attcttttcc	ctcttttgaa	ggttgctgaa	catcgagagc	gaaatgatca	aatttgccag	34920
ttactatgct	ggaattgctg	tcgcagtact	tatcacagga	tatatcaag	ttagtagctc	34980
ctccgtataa	tttatagatc	aatatctgac	ctcaaagaca	ctacaatgag	atgcaatgtg	35040
ttgccactct	ttaagcta	cagaagccct	aagaactaca	gtctgtttcc	agaggacatg	35100
agagaatgga	gagggattct	tctctcagat	ggaaacttag	gaggatacaa	gtggctgtcc	35160
agagagatgc	ataatagact	cgtagtgtga	atgtcctgtc	ctccccctgc	ctttccctac	35220
ttcatcctct	cttctatata	cagaaatgga	catttgcagg	tgtgtttgta	gggggcagtt	35280
gagtagcttg	aagaatgtgg	ggcaggggga	gatagaggaa	agcaaaattt	actttctttt	35340
tctcgcattg	ctaaagtctc	aacaaaactgc	attccaaccc	aaattctgaa	aggctgaatc	35400
tagagcatat	tttagattta	agtgttgga	gggcttgga	gtacttaact	cttattaaga	35460
aagaaaaata	ttttatcttt	tgcttctttt	tgtagaaaaa	taatgaattc	cttcccatc	35520
attcaagaat	tccacacagt	gctgtttgta	aagagaaatg	aatcattttt	tcccatttag	35580
gcattgggaa	ttttaatgac	aggctttttt	tttttttttt	tttttttttag	ttagggaaaa	35640
tctatcagca	gattagattt	ttgctgatgt	cataattttt	gtttttacatt	tcttgaaaaa	35700
tattgcctga	aaactatgca	tgaatgcttc	taggcaggtc	tttccgggag	gaaattcact	35760
cagaaatggc	attaaaaata	gttatttaag	aacaataatg	ccttattttt	ggtgctgtga	35820
gccttctttc	acacatgggg	aaagtgaagc	tctgtagggg	aaagtccaga	agacatgggc	35880
ctgcttaagt	gtcagagctg	gattcaaacc	caaatctcag	gctaccctgc	tgaaggttct	35940
gtttacctcc	acttttagca	gcagatgaca	gagctcacat	cttagttccc	aagaagaggc	36000

atcttctgaa	ttactttccc	ctttttctca	actgttgtat	tgaaagtact	ttcttctgaa	36060
aaaagaaatt	aacaaatatt	tcaaacattg	caatgctaaa	cattcctttg	tccatttcca	36120
gatatgcttt	tgggtcattg	ccgcagctcg	tcagatacag	aaaatgagaa	aattttactt	36180
taggagaata	atgagaatgg	aaatagggtg	gtttgactgc	aattcagtg	gggagctgaa	36240
tacaagattc	tctgagtaag	tagctggtaa	aacagtat	tagtgtgtga	tttttgata	36300
ataaaaccct	tgtttctaaa	ttaaataaaa	atttaaaaat	attttcagtt	ttcttatgtt	36360
tcattcttta	aattgggctt	tcatatgtgg	catggctttt	tcataagtaa	tacactgtca	36420
aatatggaca	ttaaaaattg	aaacccaagg	tactgcaatt	tggtgtgtag	accttaatta	36480
aaatattaga	aaggaaatat	tatagaagac	agttaaaaag	gttatttagc	tgtccagggtg	36540
taactggatt	taaatccagt	ttacacctag	tttaggtcat	taacagccac	ccaggaattc	36600
taaatgagag	gaattagaat	tggtcgaacc	ctattgaact	gaattttgag	gtccctgaa	36660
agacagtcac	tctacagtg	agataaagca	caactgaaat	caggaccctt	gaattccggc	36720
acttactctg	ctccttactg	tgaccttgag	cagttatcta	acctgctgg	aacacaatgg	36780
cctaatacct	gggtgatgtc	ttaggttctt	tcttgcgtgt	tagttccaag	ctctcttcac	36840
tccaactgga	caagagatta	aggaaatgtt	ctcaggaata	tgaatttaat	ataattatat	36900
tcaataaata	ttctggagca	attgccttgc	acttgtgctc	ttgaggaact	tacagctctg	36960
taggggaaat	aagaaatgca	agcaaataat	cagaactaac	acataattgtt	tattatatga	37020
tagggcgtgt	cctataggct	ttacatatat	tcgctacttt	aatcctcatt	attaccatt	37080
ggggtaggtt	ctattattgt	tcttatttta	cagacaagaa	aattgagcca	caaaaagggtt	37140
aagtaacttg	cccaacaaga	gtctgtattc	aaattcctag	tctggctcca	gaatctgcac	37200
tcttcaccac	tactctatac	tgccatatatg	cagaatgcaa	taattccaca	cacatacaaa	37260
tgcaacaagga	tttaattacag	tgttacggaa	acacaggag	aaagggtgta	cttcttcttg	37320
ggggattata	caagattgat	gcacgagaag	gtatgtgact	agaaccttga	ggctgaaagg	37380
attcagcagg	catgaagaaa	gaaaagcttt	gcaagacaga	gcaaggatat	tagctatgta	37440
aaagaaaaag	acaaataaga	tggtttccaa	aagcctttat	caacactgag	taccagctgg	37500
gaaacctaga	ttaagaacaa	aattgattgg	ctatcaggaa	agaggcttga	taacatccca	37560
aggtgcagca	aattttccaa	gatctgagag	gctgttaatg	ctatccaagg	gtgataggga	37620
tagagagatg	ggaatgttta	aaagggaaag	actgagactt	tcagcaagat	atttgaatga	37680
tcaaattcag	tttttagtgac	caaaatcttt	ctggtttcta	gtgatattaa	taaaaatcaat	37740
gatgccatag	ctgaccaa	ggcccttttc	attcagcgca	tgacctcgac	catctgtggt	37800
ttcctgttgg	gatttttcag	gggttgaaa	ctgaccttgg	ttattatttc	tgtcagccct	37860
ctcattggga	ttggagcagc	caccattgg	ctggttaagaa	tgtctttttg	catctctcca	37920
tgggaagaca	tttgccctca	taaacagcca	aaaatgtgaa	gcttgagtcc	cttttctcta	37980
gtacagttag	caacataatt	atcactatct	tcattgtagt	tgttagatta	ctccccagt	38040
tcaaattgaca	tttcatcgaa	tagggattaa	tgatgtttta	ataggtaaat	attgttttat	38100
taacagcaat	tacatttatt	gagcattcac	tgtttctcta	ggcactacta	ggagcttaat	38160
agtcattatc	tctaattcttt	acaacaatct	tataaagtga	gcactaacat	cattttaaat	38220
ataagaaact	aggctcagaa	aggtaagggg	atttgtctgg	gactgcacag	ctggcagagt	38280
aggattcaag	tctaaggggc	tctgactcca	aaccccaactc	actctccaat	atgcctattg	38340
ttctccatgt	cctcccaagc	ttgggcactt	ccctgaaaag	gcacaacaga	caaagagcat	38400
taacaagcac	acaagaagga	tttctgcaat	cacaactgtg	ttctccattt	catcttatct	38460
ttcagataac	ctctttcaga	gagaggtgat	ctgaccatt	ccaagagtta	tcccagtcac	38520
tgtctcgggt	ccccaggaat	tgaggcctgg	acaacatata	ggaataggaa	tttcgggtca	38580
catcagctaa	aaacactccc	aaggactgag	aaattattat	tagagcagcc	acattagata	38640
gcacgttatg	gaatcaggca	tactaaaact	gtgctataaa	tgagaataga	atttaactga	38700
aaaactgcat	acaccctcac	acatcggtga	gcaataggta	ccaacttcct	attgctcaat	38760
agcaaaatat	tctcacagt	tctacattat	tcaaacattt	cccagataaa	atagaaaatg	38820
gtttaaagt	acaatagcaa	agagctcgct	ccatttcatt	aggtcaccac	ttggctgtac	38880
cgtaaacagg	ttgtgtgact	caggaaaaat	ccatttaacc	cctgaaaacc	tcagtttctt	38940
tgtcttttaa	atagggataa	tacctcccaa	aaacattatg	atgattcagg	gaataatcca	39000
cgttatgcat	ttaaagccgtg	tcgggcacag	aatcaattgc	taaagagaga	tgtatatgtt	39060
tttcaatcca	ctatatcatt	caagttttac	ggcagtcctt	cctactaacc	actttccaac	39120
tatactccag	agaaccctca	acttccacag	aagagcttca	ggggttttgc	aaacattttt	39180
tcattttttt	tctgaatata	ctaattctct	tcttcaaacc	tgtgataaag	taatatacac	39240
actcacgtgg	atcataggcc	acatttcaac	atgttgagg	ttaacatata	gccagtttca	39300
cttggtttta	aacagctcta	acgcttagtt	tctctagtca	tctcagtacc	catttctagc	39360
ttctcataaa	ctcgtcactg	atgttggaatg	ttgtaggtct	gcacatgtct	tgtcttgctt	39420
tcaagtctgt	gtatgcttgt	ccttatacaa	caaacttcta	caagcaacta	tacaacaaac	39480
tatacaagca	acttcactag	gctcaaatgt	aaattttaat	gttaataaaa	acagcttcca	39540
gtcttggtta	cacagtgaga	tcccatctct	acaaaaaaa	aaaaaaaaat	tttttttaaa	39600
tagccaggca	tggtggcatg	tgccatatagt	ctcggatacc	caggaggctg	aggccagtga	39660

aatgcttgag	tacaggaggt	tgagactgca	gtgagctagg	atcatgccac	tgcattccag	39720
cctgggcaac	agaacaagaa	cccgtctctt	taaaaaaaaa	aaaaaaaaagc	ctcacttttc	39780
ttactgttac	atgtttaatt	cacatgtttt	ataaaatgta	cactgatgaa	attaatatat	39840
tgtttttaaa	aactactatg	aatacttact	taattttacat	cttagaattc	catctaagat	39900
tttgataaga	gttttgctgc	taaaagtttg	gaaaaactac	tggaagataa	actcccttaa	39960
tctgggtatt	atatatat	ttatat	gagctagttg	atcttccgca	atatgtgttt	40020
tttctctctc	ttatttatta	atctgtgcc	gggttttctt	tgggggttca	ttttgactag	40080
gactcaatcc	aagtcagttt	tagaaaaagt	aatgtgtcta	ctgttaagta	cagatgtctt	40140
ttcattttcct	tttgtaaaaa	tcaaaactac	atagttgagc	gtctccaact	gagtgaaaat	40200
ggacttttctt	ttctggaatc	atctgaaatc	gtctttcaac	atcatgccta	tactttatat	40260
gttatatgtc	atatattata	cccaatcatg	atctctgcat	gtgtctctgg	cgtttgtcta	40320
taaattatgc	aatggccatt	ggctaatagc	aatgaactat	gacatggtct	aacttaacac	40380
tttattagta	taatgactga	aacactttag	tcttacagaa	tgtcctat	ggaatttatt	40440
ctttgaggag	gttcttactt	ttagtagggg	cattttgata	tatcaacaac	cagacaaccc	40500
tggatgaagc	ttaccaataga	ccaaatttgg	accagatttc	ttcttctgt	caatgatgtt	40560
acagtgaagaa	tctaataattg	tattaaaccc	atgccacatg	ttaaatgaat	ctgaatgaca	40620
gactgactta	cctaatttct	tggacttcac	attttctttt	cttctttttg	attttagag	40680
tgtgtccaag	tttacggact	atgagctgaa	ggcctatgcc	aaagcagggg	tgggtggctga	40740
tgaagtcat	tcatcaatga	gaacagtggc	tgcttttggg	ggtgagaaaa	gagagggtga	40800
aagggttggt	aattggaatc	tgattctttc	cttaatttca	tcaatcagca	tagtaccctg	40860
agtctctcag	tttgtgcaaa	gcggcagacc	caccttggtc	tgtggcctcc	agagggaagta	40920
cttggtcaag	agggagctaa	gcagagtaat	ttaggttggt	aatttaggta	ctataagaag	40980
tcccaagcct	ttagcagtat	gtttttaaa	atgttgtagt	tggcaatttt	tagaaagcca	41040
gctcagggta	gataatttatt	tcaaaactctg	atggtatgta	tgtataaata	ttataacctca	41100
tatcagtcta	taatgctgtt	tgctgtcatt	aaagaaaagc	ctacatgaga	cattacaact	41160
gataccacag	aaatacagaa	gatcataaga	gattactaaa	aacaaacgcc	aacaaattgg	41220
atgacctaga	agaaatggat	aaattcctat	aaaaatacaa	cctgccagg	ttgaatcacg	41280
gagaaataaa	gagaaataaa	tctgaacata	ccaataatga	gtaaggagat	tgaatcagta	41340
ataaaaagtc	tcccatgaaa	gaaaagccca	ggacctgata	gcttcattgc	tgaattttac	41400
cagacattta	aagaaaaact	agtaccagtc	ctcctcaaat	tcttccacaa	aattaaagcg	41460
gaggggaatac	ttcacactca	ttttacaagg	ccaatattac	cttgatacca	aagccagaaa	41520
aggatactac	aagaaaatca	aaggccaata	tccatgataa	acatggacgt	gaaaatgctc	41580
aacaaaaata	ctagttaaacc	aaattgaata	gcacattaaa	agaatcattc	accatgatca	41640
agtgagattt	atccctagga	tgtaaggatg	gttcaacata	ggcatgtcaa	taaattgta	41700
ataccacatt	aacagaatga	aagacaaaaa	ccatatgggt	atctcaatag	atgtgataaa	41760
agcatttaac	aaaattcaat	atcctttcct	gacagaaaact	ctcaacaaat	taggtataaa	41820
aagaatgtac	ctcaatacaa	ttaaaggtaac	atatgacaag	cccacagcta	aatcatactc	41880
aagggtgaga	atttgaaagc	ttttccccct	aagatcagga	acaagacaaa	aatgcccatt	41940
cttgccactt	cttagcaacc	acaaaagacc	ttgaatagca	aaaatcctga	acaagaagaa	42000
caaagctgga	ggcatcacgt	tacctgatct	caaaatctac	tacaaagtaa	tagatcatta	42060
ttagattatt	tgattactat	agtaataaaa	acagcatggg	actggcatag	aaacagacac	42120
atagaccagt	gaaaaagaat	ggagagccca	gaaagaagtc	catgcattta	tagtccattg	42180
attttcaata	aagagacca	caacacacca	tgaggaaagg	gcagtctctt	caataaacga	42240
tgttggggaa	actggatatc	cacatgcaga	agaatgaaat	ttgatcctta	cctcacacta	42300
tacacaaata	tcaactcaaa	atggattaaa	gttttaaatg	taggatataa	aactgaaaaa	42360
ctactagaag	aaagcatagg	gaagaagctc	tatgacattg	gtctaggcaa	tgattttttt	42420
gacacaaccc	caaaaggaca	ggtaacaaaa	gcaaaaatag	acagatggga	ttacatcaaa	42480
ctaaaaagct	tcaaaaagga	agcaatcaac	agagtgaaga	ggcaatttat	agaatgagag	42540
aaaataattg	taaccatac	atctgataag	gggttaatat	ccaatacata	taagaaacac	42600
aaacaactca	atgacaagaa	aacaacctga	ttaaaaagtg	gtcaaaaagac	ctgaatagac	42660
atttctcaga	agaaaacata	caaatagaaa	cgtacaaaaa	gaaacataca	acaggcatgt	42720
gaaaagatgt	cacacatcac	taatcatcaa	ggaaacacaa	gtcaaaaacca	caatgagata	42780
tcatcttata	cctgtaagaa	tggccattat	aaaaagaaga	aagatatcaa	gtgttgggcaa	42840
gcatatgggg	aaaatgaaac	actgttacac	ggatcgcttt	tgggtgggaaa	gtaaatcagt	42900
acagccaaag	agtatggaga	ttcatcaaaa	aatggaaaac	agaactacca	tatgatccag	42960
catccccact	actgggtata	tatccaaaag	aaatgaaatc	actatgtcaa	gagaaaactg	43020
tactcttaca	ttactgcaa	cattattcac	aatagccaag	gtatggaatc	aacctaaagca	43080
cccattaaca	gacaagtga	tgaagaaaat	gtgtgtgtaa	atttacatgc	catattcaat	43140
agaatactat	tcagccttta	aaaagaagaa	aatactgtta	tttgagcaaa	cacgatgaac	43200
ctggaggaca	ttatgttaag	tgaataaagc	caggcacaga	aaaatacccc	atgatctcac	43260
tgacagagtt	gaactcacag	aagcagagag	cagaacagtg	gttaccaggg	actttgaggt	43320

```

gggagggggc aggcgagaac tggggagacg ttgggtcaaag gattcaaaat ttcagttaaa 43380
caggggtagt ttgagatatt ttaaaaaataa tgacattaat tatctaattg tagttgtttt 43440
aatttagttc atggtgatct aaaagaaacc ctcccttatt cacatttaag aggcagttta 43500
taaagtcaag aaatgtgttg ttaacatggg gactatgggt aataacatca cattgcatac 43560
ttgaaaattg ctaagaatag atttttaagt gttctcatca cacacacaca cacaataata 43620
gtatgtgagg taatgcatgt taattatctt gatttagcca ttccacaatt tatacatact 43680
tcaaaccatc atgttgtata ccataaatat atgtaagttt tgtcaattaa aaaataataa 43740
agaaatgcc aatgattca aaatgctatt tcacacattt ttattgaaca cctttttaat 43800
taaacacact ttattcaggt actgtgctac atgttcttta taaagtctga taagatttct 43860
atttggcaca acaggctggg cacagtggct cacacgtga atcccagcac tttggaaggc 43920
caaggcaggt ggattgcttg aggccaggag tttgagacca gcctgggcaa catggcaaaa 43980
cctcatctct acaaaaaaat acagaaatta accagacatg gtggtgtaca cctgtagtc 44040
cagctacttg ggaggctgag gtgggaggat cactgattc tggggagtgt gaggttacag 44100
cgagctgtga tcatgctact gcactccagc ctgaatgatg gagtgaagcc ctgtctcaaa 44160
aaacaaatta gtgttgaaaa gttatagagc attattctag agattaactc ccagtgaata 44220
gaaaaaccca aatggccaaa ataatacagt tgcacaaaat gtaattttgt ttattcttta 44280
atttatctgg tatttattga gtacttacta cgtgccatgc tttgattttt ataaaatagc 44340
taccaactga atagcaactc ttactttatg tgtttagat ttggttaagat ggtgttattc 44400
tcagttgcta ccaaatccat caagtaaaaa agagaatagg attacaacc tcttattatc 44460
gtcttttccc cacttctttt ggtttgtgga gtgaggttcc ttatttcttg taaaaaattt 44520
cagtagcata tttcttccac catgaaagac attatctttt attgtcaata aaagagacag 44580
tgtagtgttt taaaaatggt aacaaacata ggatagacct tcagtttgtg tcctgcaaaa 44640
ggttaaaagt tctccatgaa ttcaattcct gagatgtagg aaggcagttt cagaatgcct 44700
gagctatata tgagacaaaag ccattgttta atggctagat catggaatta ctgaaaccta 44760
ttccttgcat tggacttcca catagtttca gttatccatg tctcatggct gtgaacctga 44820
ccagtgtgtc acaacacagc gtctcagcca cagggcagat gggtagtga tagatgagtt 44880
ggtgcaaaaca ctagttccaa gcctggggag ctggaacaa aaagtctggt ctgcttattt 44940
ggagccagtt gcattatttt ctgataagga catgtcatgt gactcaagga aacacttcaa 45000
acataatact agatctctct tgtcatata ttatgttga aaattctttt ctcttggggc 45060
caagcttacc tcactatgca atccaagcag caatcaggca gctctgttaa gtatcgccct 45120
ttcaacatgt ttcatgtgca ggttaaaaca aactttaaaa aactacataa aggttatttg 45180
agatttttct ccctgaagct gctctgtgtt tgcgatgatt ttatgatcat ttgtaaaaac 45240
cactgcatca cggcctgttt taaacattat aacttgagct gtttctgccg aaattgactc 45300
aagcattttg tcttcacagg tatgagaaaa atcttgtgtt cgcccagcgt tggggaatta 45360
gaaaaggaat agtgatggga ttctttactg gattcgtgtg gtgtctcatc ttttgtgtt 45420
atgcaactggc ctctgtgtac ggctccacac ttgtcctgga tgaaggagaa tatacaccag 45480
gaacccttgt ccaggtacct tggacttatt gaccgagaca tagcatttcc ttctgggtatc 45540
tcagaaaagt ccatggatta gatattttgt ttattacttt ggtgccttca ggaaaaaagc 45600
atcaatgatt ttatggagtc tgtctgtgga aacaagtaat accttaaatt tttttttatt 45660
tccataattt ttttgggaaa cagggtggtat ttagttacat gagtaagtcc tttagtgggtg 45720
atttgtgaga ttttggtgca cccatcaccc aagcagtata cactgaatcc aagctctggt 45780
cttttatcct tcactgcctt cgtacctttt tccgctgagt ccccaaagtc cattgtatca 45840
ttcttatgcc tttgcatcct catagcttag ctcccactta tgagtgaaga catgcaatat 45900
ttggttttcc attcctgagt tactttactt agaataacag tctccaatcc catccaggtt 45960
gctgtgaatg ccattaattc attcctttta ttgtctgagta gtattctgcc atatatatat 46020
gtaattatat gtatctgtgt atatatatac tatatatatc acagtttctt 46080
tatccacttg ttgattgatg ggcatttggg atagttccac agttttgcaa ttgtaaaattg 46140
tgctgctata aacatgcgtg tgcaagtatc tcttttgtat aacgacttct tttcctctgg 46200
gtagataccc agtagtggga ttgctggatc aaatggtagt tctatgttca gttctttaag 46260
gaatttccat actgttttcc atagtgtgtg tactagttta cattcccacc aacagtgtag 46320
aagtgttcct tttcactaca tccatgccaa catctattat gttttgattt ttttattata 46380
gccattcttg caagattaag gtggatcac atttggtgtt tgatttgtat ttccctgatc 46440
attagtgatg ttgagcattt ttttcatatg tttgttggtc atttgtgtat cttcttctga 46500
gaattgtcta ttcatgtcct tagctcactt tctgagttta ttgtagattc cggatattag 46560
tcctttgtca gatgtgtaga ttgtgaagat tttctcccat cctgtgggtt gtctgtttac 46620
tcgctgactg ttccttatgc tgtgaaaaac ctctttagtt taattaagtc tcacctattt 46680
atctttgttt ttattgcatt tgcttttggg ttcttgggtc tgaaatcttt gcctaggcca 46740
aagtctagaa gggcttttcc aatgttatct tctagaaatt ttatagagaa acaaataata 46800
cttatatat ttatagtaaa gggatgctaa acatttgaat tgataagacc agcaatttaa 46860
taatttcaaa ttaactgaac actttatagc tatgaaatga tgattttctg actgagtcga 46920
aaaagaaaat atgcatgaa aatggaaact cagtgatctc tcagctaaaa attaacagct 46980

```

cgtataactg	agcttttatga	tagtccaaga	tatatactaa	taaatgtact	tgtgaaacat	47040
aatgagttac	taaaatgcc	ggtcaataac	agccttaact	gaacagggtgc	tacaaatgta	47100
ctttattgct	cacttggtgct	aaagtagcta	atgcctttaa	ttttcattgt	ctttacagtt	47160
attcattcaa	taagtaatta	ttcagcatct	actatgtgcc	agacacttag	aaaatgcagg	47220
ggattcaaca	gtgagcaacg	gaaatgtggt	tttgtttttg	tttttgtttt	tttgccttga	47280
tgggatttac	actttaatgg	agaagacaag	caataaataa	gtaaccatgt	aatgaatac	47340
agacaaatag	agacatgcta	tagaggacag	agaaccttga	cagtgaatag	caggataacc	47400
aggtgtggcg	gggggtccagg	aaggcttctt	atcctgctcc	ctctcccaag	gcctttcctc	47460
cttagcttat	ggctctctct	tggtgcaact	ggactctgat	cattgtttga	attctcagct	47520
aaatgccact	ttcccagtc	ggcctttttac	actcacccat	ttttcattct	cttttgtgat	47580
ctgctgtact	tttttttcaa	agcacttttg	tgatatggaa	tatttgcatt	tatttacact	47640
tgtgcccacc	cgtttctacc	ctcagacagt	aaaatctacg	aggtcaggga	aacaaaaaat	47700
gaaatatctg	tttcatttgc	cctgcaagta	aatagggagt	cgttttatat	caaattctta	47760
agtaaaat	tttagctcca	gattccggat	agagcaaaca	atgaaaaata	tcaaacctt	47820
gtataccaga	aatttgctag	ctgagagctt	aaaattcaaa	atctactgct	ttaagataaa	47880
tacattgcc	gggaaaattg	agtaggattt	tgatttgcaa	atggaagtga	ttatcagagg	47940
tcaaaccata	atcattccaa	accacggact	ttatttcatt	aagaacatga	taatacacaa	48000
agaacaactt	tttcaattca	glttatcttg	gcagcatgaa	cagctgacat	cttttgaact	48060
ttgttaaaga	aaataaatat	gataatacag	gttaatgtgt	tttgtaaact	ttaaagagat	48120
agtatggatg	ggaagtgtta	ccaattttat	aatttaacca	cttcttaaca	acttagatac	48180
agtttttaca	gattggaaaa	gccactgaag	tattgcagg	ccagatttta	actatagtcc	48240
cttgtcttta	ttgatccaat	tcctcctaag	aactttgaca	tttaccaaaa	tagggatatc	48300
agtagttggc	tttagtccta	gctgcttata	catacttgct	atgcaagaag	acaagcattg	48360
agaaaactta	tttttccttt	tgttccatgc	ctacaaggag	aggatagagg	tatacaataa	48420
taatggttca	gagggaaaag	tgaattggta	aattgaaaat	caaataatac	acaataccaa	48480
ctggaagcac	ttgaataaaa	atcccttttg	taactctctg	tagtaggaat	ccaattttat	48540
gtctctcatc	tttaaatttc	ctgcccattg	tacagtgagc	tactctactt	ttgtaaataa	48600
tttattcttt	caaccaatat	ttcttgagtc	cttgctatgt	gcagacatgg	catactatgg	48660
gtctctaaca	ttttaatcaa	ctgattatta	acctgttact	cccaacgtct	ttctgtaagc	48720
ctctgcttat	atcttaagag	aaaatttcct	ttgggaagat	gaaatgcac	ctttaacact	48780
atattccttg	ctctctctct	ctcttctctc	tctctctctc	gctcgctctc	tctctcagg	48840
cttgccaca	cttctgagca	gcaaactatg	aaggctgagt	gtgcatgggc	tgagttgagt	48900
gttttaatcc	acaaaactaa	ttaacggttt	ggttaatcca	gtacgttttg	tgatacacaa	48960
aatcgttact	ggctgcatgg	taattgggca	taaattggtaa	gtagttcaca	taagtgaactg	49020
taattagtat	cacttggtga	cagagaaaaa	atgcactctg	tggtctggta	gggaaagatg	49080
aaggggacat	gaatgggtga	gaaggttggt	ctttcatgac	cttctctgagt	ttcagaattc	49140
attaaagaaa	ataaacacat	aatggagcgt	gacattcatt	cagtatatac	aaagtgtcaa	49200
gactgagtg	acgtattatg	taataaaatt	actgcatgta	atgctctcaa	tctcattccg	49260
taattgggtg	cattatacta	ccacttaaaa	atgaaattga	agccatgaag	tcaagaaata	49320
ttgagaggga	tttgaactca	ggtctccctg	actttgaggc	ctacctatta	accactgttt	49380
tctgctct	gactctgtct	tcccaggggc	catggacccc	tttttctcca	gcacacccat	49440
agcttaattg	ttccacagca	gtctcccttc	ccatctctct	gtctacacta	cttctgctgt	49500
tcacagggct	aaagaatatg	atgttgagtg	acaaatgatg	gcttattggg	atgttgctag	49560
ctactgtgat	gatttgggaa	tgtgcttttg	tctgtctca	ctcactcctc	cccatccaga	49620
gagccattca	aagagttgga	ccccaaactt	caatttaggc	ctccagtcag	ccaggagtca	49680
gcaaactatg	gtcgacaggc	caaatccagc	tcactgcctg	tttttataaa	taacatttta	49740
ctgggacaga	gccacagtca	cttattttaca	tatgtctatg	gctgctttta	tactacatgg	49800
cagaactgag	taattacttc	agagcccata	tggcctgaaa	agcctaaaat	atttatttgg	49860
ccctttttca	gaaaatgttt	gctggccccg	gatctagggc	aaatggaagg	ttcctttgct	49920
gaggtaggaa	gacctctgac	gtgtgtggtc	ttaaactaaa	ttggaccata	agaagtgttc	49980
tatctgcttc	ctttaccgcc	tcctaagtgt	gggacctcaa	tactttcttc	actgtcagca	50040
tcacatcac	caacatcatt	actaccattg	aagagactag	cactggatta	atcatcttta	50100
cacacattat	ctcatttgat	cctgtaataa	tcctatgaaa	tatatgctat	cattatccct	50160
gtgttgacga	tgaagaaatg	ggggcttgaa	agattacata	atctgcctat	gggaggaacc	50220
acctgccata	attgaggaca	aggaaatgaa	gagataattt	ttgtccctat	gcataggctg	50280
ggattctag	gagaaagcgt	gagtggacta	accaccacc	catgtatggc	agccctggcc	50340
ctgttaatca	tcctaattgt	tggaatgaag	aggttactga	agaggagag	acatggctga	50400
gaggctctga	cactttccat	ggttcagaca	ctccagccac	aaggaagaaa	gagaagcagg	50460
agagactcag	gcaatttggc	tcaatgtgat	acaacaaatg	ggaagggctc	ggcctataga	50520
aaccatcaca	gaccaggatc	atltgatcac	ctgaaaaaga	ctacattcat	gcagggccac	50580
tctttggctt	ggcaatagac	tgtggccaat	gaaacatcct	ctatgcgagt	cacaagagta	50640

ggaccatttct	ttgggttgaca	gggtagagag	gaggagactg	gtatttccttc	tggaggccaa	50700
cttgaggatt	tgcctcattg	tctcttcctt	acctttataa	acagtgtctga	taataaaaaac	50760
agagtgtctat	ttggtaggaa	catctgggca	tgatcaggta	gccttcccct	aaggtaatga	50820
gatgactgca	ttggtaagtc	aaagaacagc	tgccccaaagt	ctgcacagga	acctgaccac	50880
tccacctgca	tatagccagc	aacagggtgag	tctggggagct	aggtagaatg	gcagtcaaaa	50940
gcttgattc	aaattctgct	ctactactta	tgacatgttg	taacctagtg	caaattggga	51000
gcctccatac	ctgtctgttc	actcttctgt	tgtaaagata	aatgaaata	atacagataa	51060
aacacttaga	aacatacctg	ttattattgt	tattattact	gttattcata	gtagttgcag	51120
tagttagccc	agtgactact	ggaatagtag	cattagtaga	gcggtaacaa	cagtagcagg	51180
ttgggtttgc	atgtaccagc	ctctagaata	gtcaggctga	tcttagtgct	tgtattgttt	51240
ttggcaaccc	tttaaccaga	aaatcactat	aaggctgatt	atataatgaa	ttcaattatc	51300
aaatcactat	tcaagtcac	tttgggtcta	caggctacct	tgcttagact	tcttactcat	51360
ttcaagacag	ttctactttg	tagaagagta	atattcagta	aaaaaataaa	gtgggtatttt	51420
aaatcataac	agtggaaaac	ttggagatgc	tttacagaac	aaaaattatt	ttgggtatttt	51480
ccaaacagcc	aaagagctag	cttttgaacc	cacagaagag	aattttctgat	aactctctgc	51540
gttaacatgg	aagacccaaa	tgatagtaat	tactattttac	acattaacaa	aaacacatga	51600
aaaatctctc	tcttttcatt	tcagattttc	ctcagtgtca	tagtaggagc	tttaaatctt	51660
ggcaatgcct	ctccttggtt	ggaagccttt	gcaactggac	gtgcagcagc	caccagcatt	51720
tttgagacaa	tagacagggt	atgtataagc	caaagtaaa	ggccattaac	aggtgggggc	51780
tggggggtgg	ggcacagaat	gaactcctga	agaattttacc	ttaaagttaa	aaatataaga	51840
agctatcgca	aggcccttaa	ttcagcaaca	cttattaaat	gctatcatgt	gctgggtgcca	51900
attctttttt	tttttttttt	tttttttttt	tgagatggag	tttcgctctt	gttgcccagg	51960
ctggagtgca	gtggcacaa	ctcggtcac	tgcaaccccc	tcctcccagg	ttcaagcgat	52020
tctcctgcct	caagggagt	aatgcaacag	ggaactagaa	caagtaagac	ccctgttctt	52080
tactcatgct	gggagaggac	aggcagtaaa	gaagtatgca	cattcaaaga	taagacaata	52140
gcagagagt	gtaagtaaat	aaaggaaata	aaatagggca	atgtgacagc	gactgggggtg	52200
ggagaaaag	tcttttaaatt	gggtgggtgg	ggcagtatct	ctgaggagggt	agcatttgag	52260
tggagaactg	aagaaaagtc	agccatacaa	atgaggattg	gaggagggtg	ggcgtgggaa	52320
gtaagagcgt	ggagggcatt	catggaagag	aggcccccaa	gttggaagag	gctgctgatt	52380
taaagaagct	gaaacaagcc	cagtgaact	gaatagagtg	aacaaggggc	agaggctgga	52440
ggcatgggaa	gggcctacca	tgaggagctt	caagaccatg	tccataaaat	tcgcttatct	52500
tctaaatatg	gcaaaaagg	attttactgg	ttagtctatg	gaagcacact	ggaggccaa	52560
ctagggagt	aaaatccaag	aacaggccag	gcatggtggc	tcttgctgt	aatcccaata	52620
ctttgggagg	ccaaggtggg	cgcgtcacct	gagcccagga	gttcaagacc	agcctgggaa	52680
acatggtgaa	aacctgtctc	tactaagaac	acaaaaatta	gccagtcaag	atggcatgtg	52740
cctgtagtcc	cagctattca	agaggctgag	gtgggaggat	cacctgagcc	cagggtggcc	52800
gaggctgcag	tgagccatga	ttgcgccact	gctctccagc	ctgggcaaca	gagtgagaac	52860
gtgtctcaaa	aaacaaacaa	acagaaaacc	aagaacagaa	ggggaagttg	gcaatctgtt	52920
gttctttctc	tttaaaaaaa	aaaaatgcc	tgagctgagt	ccaaagcaag	ccctggaaat	52980
ccagagggtga	tttgcgggct	ccctgaacct	gtttggttca	ctgtccgctg	tttgatactc	53040
tttcgccaaa	cagtgaagtt	gtaacctatt	aagggaagtga	ctcattgctt	tatctgtttt	53100
ataatttggt	gtttcatata	ttggagtaca	gagagattgt	taaaaaccac	ataaaaaatgt	53160
tcattgatgg	ccaggcatgg	tggctcacac	ctgtaatccc	agcacttttg	gaggccaagt	53220
cgggaggata	gcttgagccc	aggagtttga	gacaagcctg	ggcaaccctg	tctctacaaa	53280
aaatttaaaa	agtagccggg	tgtgggtggc	catgcctata	gtcccagcta	gtcaggaggc	53340
tgatatggga	ggatggccta	agcccaggag	tttgaagatg	cagtgaagta	tgatacaact	53400
actgactctc	ggcctgggtg	acagagtga	acctgtctct	tgaaaaaaa	aaaaaaaaaa	53460
aaaaaaaaaa	agtcaattta	ttcaaatctt	acctctttct	taagattggt	atatgctcaa	53520
ataagatgat	gactctaaaa	gtgccctgaa	actaaaaaat	taaggcattt	aaaaattatt	53580
tcttaccttt	attagcaacc	cagtaaggag	gtagattaca	ttatactcct	caatagagct	53640
aaagtgattg	atatggtttg	gctttatgtc	cccacccaaa	tcttatcttg	aactgtaatc	53700
cccattgtgtc	gagggaacaga	cctgggtggga	agtcattgga	tcacaggagc	attttcccc	53760
atgctgttct	tgtgatagt	agggagtctt	catgagatct	gacggtttta	aagtggcagt	53820
ttcccctatg	cgctctctcc	tgccaccatg	taagacatgc	tttgcttccc	ctttgccttc	53880
aacctggtt	gtaagtttcc	tgaggcctcc	ccagccattt	ggaactatga	atcaattaaa	53940
actcttttct	ttctaaatta	cccagtctca	ggtattcttt	atagcggtgt	gaaaatggac	54000
taatacagt	atgaatttcc	atcactagtt	atggacaagg	gaagaagatg	atgctggagt	54060
gttctggtag	caggaagagg	ccctcacttt	tctctgatta	accagagtgg	ttaaattcta	54120
gattgggctt	gttgctagca	gaagaggtga	aattcaggac	aacaattgaa	agttggtagc	54180
atttgaacac	atcatttagg	aacactcagt	tttaatcatc	atctaccatg	gatactcaaa	54240
agaataccct	cggacccccg	attgggtgac	tagttgcctg	gtcttagaaa	cttaattctt	54300

ctgcaattcc	tccacttctt	caactgaaaa	tgggcataac	accagtctag	tttgggtgacg	54360
gtgacaatta	tgtaaataaa	agtataaaaa	cacctagtag	attgtctcct	atattatctt	54420
agtaatatat	aatatataat	aatattgtta	acatatgtta	tacatttata	atattaatac	54480
aacatatgta	ttatatatgt	attattatat	aatggcacat	attatataat	atctcagtaa	54540
caacatgata	aataataaca	attaaataaa	ttaattaaat	atgtattatg	ttaatatata	54600
atatctcagt	aatagctcaa	gaagtagtga	ttattctcac	tattattaat	aaacgtttaa	54660
tgagtacaca	tctttggcgt	atctctgcaa	tgttttatct	ggttggtgtt	ctaagtaaat	54720
tcaaattaag	atacatgcaa	actaagaggc	acaataaatg	tatacatctt	catttgaatt	54780
tactcataaa	acagagcaac	aaccagataa	aacattgcag	agatacgcca	aagatgttta	54840
tttgaattta	caatttgaat	tgagttgtgc	atcttagttt	gagtttacac	tgtgtccctt	54900
ttgtatttca	ctccagaaac	ccatcattga	ctgcatgtca	gaagatgggt	acaagttgga	54960
tcgaatcaag	ggtgaaattg	aattccataa	tgtgaccttc	cattatcctt	ccagaccaga	55020
ggtgaagggtg	agtgctgggtc	tgttccccag	aatagtaaat	gttttcttct	tcgatgattt	55080
atgtgcataa	ccacaaattg	ctcattttct	gaagcctgac	tctgtttcca	gtaataggga	55140
atggagggtgt	ctttctctga	aagtatcctc	gggtgttggc	ttatctcagg	caacagacca	55200
catttcctttg	tgataacccat	aatgtgcaaa	tcccctgggt	gggacacagt	ctggcagtag	55260
atcagggtta	aatgaactgt	atgacgctct	gttgaaatga	gtggcagggtc	ctgtctttcc	55320
atgcaagtgc	tagataaatg	acaaggcaat	tacaacaatc	aggaagcaca	ggttcttccc	55380
aaccttcgca	gagactgcag	aaagtggaa	acactgagta	tagggtagta	agtggcaag	55440
gaaagctgcc	attatgtagg	tttttacttc	ccatctgtaa	attcactagg	tcactgcatc	55500
agcccttata	ggaaggatc	cttgtgatat	tatgctcacg	tgtcttggtc	agggcacatg	55560
gtgaaaaaaa	ttatttcctg	ccittaaatt	atctttacag	gcaatttact	ctacaagaaa	55620
ataggatct	actaccctcg	aataaattgg	ctttgaaatt	agacttattc	ctcattttca	55680
acagagtatc	tctagccact	ctctcttaat	atctctgtta	tctgcacaga	actaaatccc	55740
attttggttag	cctaacttaa	ttctgacacc	acataacctat	catatatata	tgtgatatat	55800
atgatataata	tgtgatatat	atatcatata	tctgtgatata	atatatgata	tatatatcat	55860
tctctctttg	aatatatgaa	tatatacaga	gagaaggtaa	acatatatat	aaaatgcagg	55920
taaatattta	tataatataa	tatttghtaat	atataataca	tatatatgta	aatatataat	55980
tactatataa	tattttaata	taaaaatatt	tatgtattta	tatattttatc	tataaatata	56040
aaaatattta	tgtattttata	tattttatcta	taaatataaa	aatattttata	tattttatcta	56100
taaatataaa	aatattttata	tattttatata	tattatctata	aatataaaaa	tattttatata	56160
tttatatatt	tatctataaa	tataaaaaata	tttatatatt	tatatatttta	tctataaata	56220
taaaaatatt	tatatatttta	tatatatttatc	tataaatata	aaaatatttta	tatatatttta	56280
tattttatcta	taaatatttta	aatataaaaa	tattttaaata	ttcatatatt	tatctataaa	56340
tattttaaata	taaaaatatt	taaatatttta	tatatatttatc	tataaatatt	taaatataaa	56400
aatattttatt	atatattttat	ctataaaata	atataaaaaat	atttattata	tattttatcta	56460
taaatatttta	aatataaaaa	tatttgttta	tacattttatc	tataaatatt	taaatataaa	56520
aatattttata	tattttatcta	tatttttatat	ctatatatac	atacctacat	tatcagtagt	56580
taggtaaata	tatctataaa	tatatataaac	aatgtacaa	atataagtg	atatctctat	56640
ttaccttcat	tatatacata	aatatataaa	acataagtaa	atataatattc	tgattacata	56700
aagtatatatt	ttattatcta	ttacatatgt	acctaatacat	caaatgttat	aacatatgta	56760
aagggtgcttt	gtaagctatg	aattacaaag	taatacacac	tcagtaaata	tttttgaatg	56820
gatagctaaa	acttatatta	caatgggtgga	gagtaattga	ggtttttgcc	attactttta	56880
atagtgaat	aaaatcttct	tacttaaacc	tatatgtatt	tattcatagt	acgagtagt	56940
ttttaaccct	ctgtgtgcca	cattgtactg	gtgctataat	gataaaaaag	cacatttgat	57000
gcctgcttgc	tctgggagct	tacagtccaa	tacaggccag	taagtgaata	tgtatttgca	57060
agtttgactc	ctagtgtgaa	atgaaaggcg	tgaggttttg	tgacacagag	gaccccaaac	57120
cacattttcc	ataatcagta	caaaaatcac	ctcttaattg	gtgaaaatat	tgacagatag	57180
ttatgaatta	gcttctcatt	ctttcctcgc	aagacctact	agccagcatt	cagcctctac	57240
gtagcaaaca	caccgtgtat	atttattaa	taagtttatt	caaatgggtat	gttcatacac	57300
catacacatg	acggacggct	taaaaatccgc	aaatttcctt	actgttaatc	catgatcagt	57360
aaattagtag	tatatattcta	acttaattgga	ttttttttct	ttaactaatt	ggcatagtct	57420
ccttatccta	gtatgtcagg	agtatttttaa	atcagattttt	gggacataat	tttaaaagtt	57480
aacatgtctt	atttacttca	cctgtgttaa	tgtgcatcat	tttacttctt	ggtcatggct	57540
ctcagttaaa	taattaagta	atgtgctaaa	tgccaaaacc	tcacctctgc	caatgtttcc	57600
ttttactgg	ttttgatgga	tttcagtgga	cgttgctttg	ggggcataca	ttaaagcaca	57660
cacagacacc	gagtatcaac	acaaagcatc	tgacactgta	gcctaattgt	ttgatttggt	57720
aaacagtgac	aatctgaact	ttgctgtttt	ctttcttctc	cagattctaa	atgacctcaa	57780
catggtcatt	aaaccagggg	aaatgacagc	tctggttagga	cccagtgagg	ctggaaaaag	57840
tacagcactg	caactcattc	agcgattcta	tgacctctgt	gaaggaaatg	tgggtgtctt	57900
ccagaaactc	ctcaatacat	ggggacagta	aagtgc aaat	ggcagtatat	tgatcaaaca	57960

gaaagggtgta	gcatacattg	agactgtcct	ggcatgcata	gttaacttaa	tgatttggtta	58020
ctgaattgat	gggacacgct	tcctacatgg	taacagtggt	cagtgaataa	ccagtcatt	58080
ccattcactg	tataatgtaa	ctgaatgtgc	agatacagtc	agatgtggca	tagcaacatt	58140
tcagtcagtg	attgatttca	tatatgatgg	tggttccata	agattataat	ggaacatgta	58200
tagaaatctg	atatatgtca	cttgatgttg	gcattgcaga	tcaagttaag	agaaatgatt	58260
gatatttagt	aatggtgcta	ggacatttgg	aaatatatat	ataccatcta	aatttgtgta	58320
actacactgt	gatgtttgcc	agtgatgaaa	ccacctaaagg	acacatttct	cagaacgtat	58380
ccccgtcgct	tagctatgca	taactgtaca	tttaaaatgc	tattgctgcc	tcttcagtga	58440
actgtctatt	ccactttttt	ctttgtatta	taacgaaaaat	attattgtgt	ccttaagttc	58500
tcagacact	aaatatagga	ataataacag	ggcttgaaat	taagagagag	cagtcctaag	58560
aaactaagaa	aatgagtagt	tagtaattgc	catttattta	tcacatatta	tgtgtcagat	58620
actttattaa	aatgattact	tattgtcaca	atgaccccca	aaggtacata	ggccccattg	58680
acaaacaagg	aagcagagag	tcagagagat	ggaaacttgt	ctaggggtcat	tcacaggtta	58740
aatgaccaag	tcaggattga	atccaggtgt	gttgggttcc	aaagcccatg	ctcttttcac	58800
tctgtctcaa	aattattctt	gtcagcatct	ccttgatgcc	ttgagatgga	atcgtttaac	58860
tatttaatgg	cttcaacaaa	atgagttctc	tatcatgcat	atagtattac	acaggcatgg	58920
caaacataac	agagttttcc	tttttcacag	acatctcatc	tctgattggg	tattctttac	58980
tacctaccac	cataactgca	ctctgaatat	atagaaatca	tagtttcttg	atgtaagatt	59040
tttacatttt	tactaatagt	gatttttatt	tgtctccact	gatagtttca	cttgcttttt	59100
aacagcaaag	tgttatttga	tgaatctggc	cagaaagtaa	gacttactat	aaatcatata	59160
tacaagatag	ggatcattgt	ttatttttat	tatatctttt	gagtccattt	ttgtcaaaag	59220
tcaaaagata	taaaaatatt	taaaacgtag	tgaataactg	tctctactct	ttactggaat	59280
caaaaatttg	tccattcctg	ggccaatgg	gttaaattaa	gtgaacttta	tttacatcat	59340
ttatgtttcc	acaatgaatt	gttctgcagc	tatacttgat	ttcaattaca	tgttatcatc	59400
cttatataaa	gaaccacatt	tcaagaggaa	ttgtttccat	tagaatctta	ttggcctcta	59460
ttttttctgc	ccattggtca	agtatgacat	aatattatga	ttcagaaccc	tgaagatttc	59520
caaaagttgt	gatgttgtgc	ccatgctctc	taggtgaccg	tggatggcca	tgacattcgc	59580
tctcttaaca	ttcagtggct	tagagatcag	attgggatag	tggagcaaga	gccagttctg	59640
ttctctacca	ccattgcaga	aaatattcgc	tatggcagag	aagatgcaac	aatggaagac	59700
atagtccaag	ctgccaagga	ggccaatgcc	tacaacttca	tcattggacct	gccacaggtta	59760
cccctagcca	tacattcctg	ggagaaacta	agaggtcata	gaaggaaaaa	aagttgcaca	59820
attatacaca	tttcttctcg	tatgattccc	aagtcattaa	attcttaagc	catgttttag	59880
tttcatgcct	gaaaaagtac	catgagtgtt	tcctttcatc	tgaaaaacaca	ttgtttatgt	59940
gttcaaactc	atcaaaaaag	gagggtttct	tttgaaaagc	tcactttgtt	ggtaatatat	60000
taaacatcta	ccaaactggg	gaactatctt	ttttaaaact	cctttgacat	agatccaatg	60060
tccttattcc	ttttatttag	catttgtcta	agcagatgct	aaatgtcatg	tggcaataac	60120
ttgcacaata	atctcatgac	agctactcat	aattttcttg	tgcttaggca	gctaattattg	60180
tgtcaaaaac	aattcattgt	atatctccat	tctaagcaac	aacaactaca	aaaaccaact	60240
cctcagcatt	atacttcaat	ggattttgcc	accgatggcc	tgctaagtca	aagaagagtt	60300
attataaagg	gttaacacgt	atacggttct	tactacatac	caggcactgt	tctaagcact	60360
tcacacctat	taactcatta	aaccctcaca	acaaccctgt	tgagcaacta	atattattag	60420
ctccatctaa	agatagaaaa	ctgaggttct	gagaggtcaa	atagcttgct	caagattata	60480
caacaagtaa	atggtaaaga	caaggttcat	actgaggtga	tctgccttca	gaagagtcag	60540
tgatcttgaa	cacttccctt	tcagccttct	aaattctctt	tatgaatagg	attgcagctg	60600
tggctatgat	atagcctagt	agttaaagag	tataaaagctt	tagaatcaga	ttgccttgat	60660
acaaatccca	gcttctctat	ttacaagctt	tacaaaacttt	ctcaagttac	tttgggccca	60720
gtgtttcctt	attcatcagt	tgcaaatagc	agcacttgcc	tcataaggta	tctatgagaa	60780
ctaaaagaga	tgttatgtgt	aaaaagctca	gaaccatgct	ttattcatag	taggggctca	60840
attcatgttg	gttagtaata	agcaagataa	gtgtctgacc	actaacacct	aattattaga	60900
ttccaatgtt	gtgctaggcc	tgtgagataa	tcagtaacca	tcttttgtca	atgataatcc	60960
ttataaagct	agtttgacct	tttattcata	atgtaaaaaac	agcctttgca	ttataatttg	61020
ctgtgttgtc	taacaggagc	aaagagacac	ggatttgctc	tgtgctttta	tcctctgaga	61080
tagatatatta	ggaccgtgac	caatttttat	tttggttgaa	aaatcttatt	tgaagttgag	61140
ctaaagagga	atattttacac	agcccagtaa	accctggaat	aaaagcataa	atcaattcct	61200
ttattttcaca	cataaatatt	gattagacaa	taaccctgtct	ggggaaggga	tattttctttc	61260
agtggaaagtc	ggagcagtg	aaattcgtgc	ttgagaagaa	aactatgaca	gaaaggacat	61320
tatagtggat	cactgtcaga	agccatcaaa	ttcttttccc	ttcatgactg	gtgtcacctt	61380
ccatctagca	atttgacacc	cttgttgagg	aaggaggagg	ccagatgagt	ggtggccaga	61440
aacaaagggt	agctatcgcc	agagccctca	tccgaaatcc	caagattctg	cttttgagca	61500
tggccacctc	agctctggac	aatgagagtg	aagccatggt	gcaagaagtg	ctgagtaagg	61560
tttgtggaag	tcttagtcca	ttttacaggt	ccatgtggaa	atgcttgtgc	tgctgcagga	61620

aaggcagctc	cttgtgggggt	gggaggggatg	ggagtagttg	atactacatg	ggttcacatg	61680
tctagtctga	ttgttttagaa	aatatttagct	gactacaatc	ttcctcacag	ttgaacagaa	61740
gaaagttgta	atttgtttcc	aaaagctaca	catgtaaaag	tttaaactct	gttaagacta	61800
gcttatgata	ttttttaagt	tacctaaaaa	attgttttta	gctgttgatt	aatggcagca	61860
acagggccag	tgtgtgttgg	ggtttatggc	tgcaagaaaa	tgtgctggcc	ttttctaattg	61920
tctgcacagc	ctattttaaga	atattcccag	ggaccaagga	tctaactttc	ctatggattc	61980
tgaaatgatg	caaagggtcag	tgtcagctct	gtctcacagt	tttgtttaat	ggtgcactgt	62040
acattcttac	agattcagca	tgggcacaca	atcatttcag	ttgctcatcg	cttgtctacg	62100
gtcagagctg	cagataccat	cattggtttt	gaacatggca	ctgcagtgga	aagagggacc	62160
catgaagaat	tactggaaaag	gaaaggtgtt	tacttcactc	tagtgacttt	gcaaagccag	62220
ggaaatcaag	ctcttaataa	agaggacata	aagggcaagt	gctttttccc	tatacttgta	62280
tggtatatta	aatagttaat	gtctatagt	ctttacggtt	ttctatgtat	ttcaatactc	62340
actgtttctc	caacaactct	ggcaggcggt	atatagatgg	taaaggaaac	aactgaagct	62400
caggaagcta	agctatctga	tcaagttaca	gcactaaaac	caaggcttct	aactttcaat	62460
tccatccccc	cctttttttt	tttttttaac	cctgcgcaaa	tagaagaggc	ttcctagagt	62520
gtgttccgca	cgcagtagaa	gcttcacgtc	tattggctga	gtgaattaat	caatgacaag	62580
aaagtataat	acttattttt	aaatgtagat	agatacttca	ggttctagt	caccttcttt	62640
tttatcagtc	tgaattttca	gacttggtgg	ttacctcaat	ctaaattaac	caaccactct	62700
aaactttctc	caccattttc	ctccattagg	tgtaactact	atatacattt	aacataggag	62760
ggttattctg	aatagacttt	tgaaggtttt	agtgtttcta	tcattttttt	tttgctactt	62820
ctgatggact	tctcttaaac	tttttatgat	ttatgctaaa	aaaaaatacc	tgtttctgta	62880
gaggtataca	gctattgtat	ggtttaaatg	actcagtcct	gctgagtatt	ttgaaatttt	62940
ttattagaat	ctgcaggaca	agtcccgagt	tttattttat	gcaataaagt	taacagaatg	63000
ttttggcatt	tgacatagta	attatattct	aagcaaacat	agtaaagaat	tctacttgga	63060
tatggttctg	tttattgtat	atactaaaaa	attgctcatg	ctgtgttgag	tagatgcaac	63120
tgaagatgac	atgcttgoga	ggacctttag	cagagggagc	taccaggata	gtttaaggta	63180
agctcaagcc	atggggcgaga	ttacaagctt	tccaaatatt	ctgaggagtc	ctctgtagtc	63240
ctaactctca	gagaatatct	caggtacaac	aaggaaactc	tgagtagact	gccagggtct	63300
gtcaaatatg	aacatgcaag	tgatccttgg	ttgctatatt	gacattttct	tccccaatc	63360
atgggttttt	ggttagcttt	tcactttctt	ggggataagg	gttacaatgg	agatgcttta	63420
tggttataat	tggtgtgtat	tgagcttaga	aaggggactt	cttttaaaaa	aaatctgtgt	63480
ttagtgttcc	tctgctccaa	gctaactgtg	gtatgaaaca	ctgtcttacg	tgaaggtcaa	63540
attcatgcct	ttagctccac	tctttaatct	actgagctgc	aactgaatta	caaacacttc	63600
tgctcccaga	gtaaccatc	tgaagtcaaa	tcattccata	actagatgaa	gtaagaaatg	63660
taattttttt	gcacttaaaa	ataattttcc	taaataagag	ctattttatt	ttccctggat	63720
caatataaag	ctgtttactt	tcaaaatata	tttttgaggt	atgctattag	tgagactaca	63780
cacttttagtc	tttcatcctg	gtttaagagt	ttcaataaaa	ctgctcctct	gatgttacaa	63840
gtctgtatta	agaagaattc	tgcccaggag	tgtttgtcta	tattttataac	tgttattcaa	63900
gatttttttt	tcttaagtca	gaagattttt	aaaaggcaat	gagatggtag	caatatctct	63960
atgattgccca	tttccatttc	taggacattt	aatgcaaggc	tgtgcaaagt	cgcagagata	64020
agacttgctc	attcaagatg	gataattatt	tattgaaaag	ttgttaaaga	gccttaaaaac	64080
attcagctaa	caattccaag	tagttcaaac	gcagatttat	tcattttaat	attcaaagaa	64140
tagctcacia	aaagtagtgt	atttattttc	agatgtagat	aaatacttca	ggccctagta	64200
tatcttttcc	ttatcagttt	gaattttcag	acttggtttt	tcctatcttt	cttcttgaga	64260
acaagtttat	tcaaacaat	tttaagaaat	gctagtttga	ctgaattttac	tgaatttggc	64320
aaataacaaa	gcaatagctt	cacattactc	tgctcatgtaa	aaggtataaa	acaatgttat	64380
aggcacctgg	tagtaagttt	agtcagtctt	ttctgattcg	atactaaatt	taaatcattc	64440
aagtcattag	aatcacaaac	tgaaaatata	aactaacttc	ttaaaccag	agaatgacta	64500
ggcatctctt	ttggtcacta	ggttaaaggt	tgcaaagtgg	acatgtttct	tatgatcagg	64560
ccaacaagaa	aataaatatt	ttcttaactc	ttcagacaaa	caaaattcta	ctcatgttaa	64620
gtagtttatt	tgcagtttat	tattagaact	agttaacat	tttaatgtga	acattaattt	64680
ggctataaatt	tctcacaaat	gttacatttt	ggtagattag	atgagaaatc	cagaaatagc	64740
atctacacac	agaaagtagc	tattaacctc	ctgcagagaa	agattttgtac	atttgagtat	64800
gaaagtctgt	taaaatatct	cattgtacat	gctgacggat	ttttcttggt	gtcgttaaaa	64860
gatgactaaa	tgaagtgtta	atatgtatct	tgtttctttg	gtttcagttt	ttctgtggc	64920
taagttcctt	ttcagcaata	tatttttaaat	tcaagaacaa	tttaatacat	aacagccaca	64980
aatttcctaa	ataataatgt	tgagaaagat	agtatttagt	cccccaagtt	agttgttttt	65040
atttgcagtg	agaagtggta	cacagcttca	gagaagggga	gagacagatg	ttgtcagttt	65100
ctgaaaaggg	atgggtgttt	tagtggatga	gagaggtaaa	cctgcctagc	acatgcactg	65160
cccatggcct	catgacagcc	taggctagac	agctcgaatg	atctggagaa	tggtgaaaga	65220
gagagactta	aaaaatataa	agtagatatc	caaggggcca	aggacatagg	tcttcccata	65280

ctccagaactg gaaggtagtc agtcatatgt tgatggcctc tcctgctcca caaactccta 65340
 ccttggaatc cattgctctg catttgcttt ttaggtcctt gaccttaagt ctctcctat 65400
 caagcacctt gttctcacca gctgacacaa gcctattctg cacaccttct ggagaagaca 65460
 tcctgacctc tgttacctaa ctgggagaaa tgacttcatt gctgtgtagt ttcaggctag 65520
 gtgggagggg gtctctggag gtgtcccaga agtttggtgg caggagtagt cggtgaggag 65580
 tggtttaagt cctgggcata atgagtcttg gcaagagtct gaatgtgcaa gagcaaggaa 65640
 gagggagggc ttgaggaaac tgcatgggtg tgaacctggg tgactaagag gatggaagtg 65700
 ccattaacag aaaatgggaa caaattggag caactcagtt gatacattac tgccttctct 65760
 ggaaggctag atgagcatat agtaggcagg caccaccttg atatttgttt tggtgaaatt 65820
 tcacttggtat gcaaaatggg agagaaagat atgtgaatgg attcatctag atggcactaa 65880
 aacagttgat gcaggctctc tcatcactca catctctctc ttacaccat ttacttcagg 65940
 tgattctttc taaaacacag tcttcagcat tgccctttaa ccattaagac tgtttacaaa 66000
 tgactgaaaa cctaacccaa cttggattta ccttttagaga gacagaatca gctcatataa 66060
 ctaaataatc caaagatgct ttggcttcag gcaaggctag agcttcagtg atatgtccaa 66120
 gctagaaaat agtttctctc tcttccttcc tcagctctac tatttcactg ttggcttcatt 66180
 ttttcagaaa gcttcttttt ttgaaggctc caacataatt gtcaacagct cccagcacta 66240
 aatactttta gattaacctt gaggagaatg ggggcctcct tcccaggagt ctgggggagg 66300
 gaagaggagg gtggagtctg aaccaatcac ttcccatgct tgcattgtac tcagtatat 66360
 cagcaagcaa cctgtctctc cctgtctctc atgcttatgt ttatacatc tctcagtcag 66420
 aatgtctctt ttctatagtc taaaaatccc catatcctac cttagccatc tcatccatga 66480
 atcttgccct ggtaacacct gccatacatt tctttttcct ttgactttcc atactcttta 66540
 ttcaaacctg cctaatagca cttaccacat tcttctttac cttagggtgt ggtacaggcc 66600
 tcttctataa ggtttaaatt tttgaagga gaaatctgtt attggctagt ctttgtgtcc 66660
 ccaacatcac ctggcattgg tttgtaagtt gtagatgcc aataagcttc tgttgaatta 66720
 atgaataaat gaatgaacac attgagctaa attatatctc aacaagatac tcattcatgc 66780
 atgtctgaat gcagggtagt atatagcctg gagaaaatct catcagaggc cctatttctc 66840
 catatcattt gtaacctgac taaagtgaac acatcaggta tgagagaaag atatcaagac 66900
 cacaatctaa gccagaagga aagtaaagga aatagactgt tgccaaggca gcaattagca 66960
 gaacctgtg ggtttgaaa gtatttgagc cttagggtgt tttttgatga actggttaga 67020
 cagctttgct cctttctctc ttctccctcc ctgactacac tctgaatctg ggtccaacac 67080
 ttgcaagagt ttagggccca gagcaatcaa cctgattagc tctgccctaa gattagctct 67140
 gtcaaaccta acctgcaagc tccctttcct ggttaccatg tgacctacca aacatttcta 67200
 tttatttgac atatgaaatg taaacttggg caccagttga tcctgctcca atctggccac 67260
 agtctacact gtttcatctt tctgtttatt tacagggctt ccatccggca acgctccaag 67320
 tctcagcttt cttacctggt gcacgaacct ccattagctg ttgtagatca taagtctacc 67380
 tatgaagaag atagaaaggt caggcaccaa ctgcttatgg gggggaatgg aagaagtctc 67440
 tcctggggac tgttggttac cctttaagcc tgagaatatg agttttctag gtatatatct 67500
 agcagtgtt caagtcagac taaaagacag agcattaaga cctaatagaa actctaagtt 67560
 ttacacaata tttttaatgc agattagtta attgattatt ttaagaata caaggtaatg 67620
 aaaactggac ttcgaggagg taattgtctt agacaaacta ttctaacaaa cacagaatgt 67680
 gtgaattcta gatatttagc agattatttg ctcatatgta gaaatccttt tataaaagtt 67740
 gttagaataa cctgaaagct tttttctcaa attttaaaat ttctttctta aattacaata 67800
 attttgcaa aaataccttg atcaacaaaa gtgtttgaat aggctagccc ttattacaag 67860
 ttatcaaaat atttgaatta atggaggcca attagggttc acagacattt gttgatttca 67920
 tacaattttt ataatggttt taagatacat ttaaaataat actatcaatt ttaacataat 67980
 tcaaggtagc ataaaattaa agagctagga aagcaacaaa catgtatagc aatacacaat 68040
 ttcttcttaa ggatgcagggt gtctgtctgt ttagacatt gtctaatttt cacataaaca 68100
 gaccacccat tctctccaa gcctttctc attactgcac gttacatgtc agccctgata 68160
 cttttacgtt cattcccta ccaccttcg ttagaaaatt ttcattggcaa ttttcttatt 68220
 gagccttaat caaagtcag ttgacttatc ccctttctaa attataagcc tctgaaagtt 68280
 agtgatacac cttattttgt tttgaatcaa cttggttacc taaccagtg ccttgcaatt 68340
 agtaaggcat caggagattt taaaaattag aatgaaaaca tgaatttcta caataaaata 68400
 aaacccaac tgcaagattt atcaaagcaa ataagtcaga gaatttttaa attacaagca 68460
 catccattat gcatgatata atttcaaat gtcttaataa aaattccaac acgtgaatcc 68520
 actaggcagt aattacaac attgattcat aatggacaaa tttggaataa agtagagtac 68580
 tctttatgac cgtatgaaa tgacaaggga gtgattgggt tctcttttgt ttttaattga 68640
 ttaatactga ataaacagag gtctcaattt ctaacacagg ctttaataaa attccatgga 68700
 agactttttc tcaggagcag caggatgaat cacagtgaga gaaaacacat ttagcaagca 68760
 tagtttctta ctgcatcctg ccactaaaga ctcaacctct cttctagttc tagaaatagc 68820
 tatttcattg agtccatggt gctgtcccag ataactataa gatgtattat ataagagcag 68880
 gagtttaata gagcttcagg ggagaaagaa ccaaacacta cattgacatt tctattgaac 68940

cataacaata ccaatcatat ttaatTTTTg cattttaatt ttttctagtt tctgggtaga 69000
 tatttgacaa taaaagtaaa agtaagaaag gatggaaaga agggagggag ggaaggaaaa 69060
 tctgactttt tcattgttgt tgttcaagct ggttagaggac cttagcgtagg tgtaggggac 69120
 catcagattc cctggacatc tggagatcag attcccatag agttctcttg atgcaggaaac 69180
 aattcaggag ggaaccattt aactaaaagg aaatctaaat ctaatatatc gtctagtttt 69240
 acagagatta aaatgtttca tattatgttc tactagtacg cattatacat ttagaataga 69300
 acaattaaac tcagttatat gtaggccagc atacgtttta aaagatgtga ctttacgttc 69360
 tctctagtta agggagatag aaaggaagaa gagagaaaaa atgataggag agccaatgtg 69420
 attatactaa agctccaagg ggaaaaggct tcataataat accactgggt tgtacgataa 69480
 ttttgttagt ccttttaggt taaaaaatta atgattttttg aaaagaaaaa aatggaaaag 69540
 ggtaataaaa atttgactta tgaaatttct aatctcaagt aacattatat ggtaaaatgt 69600
 tgctctgttt tggatatttt aagtattttt atacttaact aaattccaca agcccaagca 69660
 ttggtgaaat cctttctttt tctcatgttg atggaaaagg cctaacctta ctttctgtag 69720
 attgggaaat actctcttac ggtgctaaag gtcgattcac acaaaggagt tatcgccacc 69780
 ttgtggtctt gtggagtatt gactctaaaa cttagaacca tttcctgaga agtctgtgct 69840
 ttcacccaag gtctcatggt tagttgggtga cagagatgag actataccca tttatccttg 69900
 ctctccaagc agtactctta gctcctgtaa acgggggtcag atgttagtta caatgttgac 69960
 aacattaagt ttaggattag ggaaacccac aggctaaagg ttttagtctc taatatttag 70020
 gcaatctctt ttggtgaaac taaaacacaa ggcagaacat gtatgagatc aagtcaggat 70080
 caaatattag acaccataa ctgcatcaca gataacttat gtgataggat ttaggcattg 70140
 gttaagataa gacagagatg ggaccataa aaatggctat cagtattagt tcatttgaaa 70200
 aatctctgct cctttgtcat agttaccact ttttatcatc aaatcttaaa gttattatta 70260
 gggcagggaa cctctactga atggaaggca gaaattagt taacaaagta tagaaagcaa 70320
 gacctaagat ttaagtcgga ggttattttt cctctggcct acacagaaga tgtaagaaag 70380
 gaaacagaaa agcccagtggt cttagcattga actatgaatg catcatagta gatgagcaat 70440
 tttaaataaa tctcttggtg catgtatgca gcatggacat aaaagtttca ttcattcttt 70500
 tatcccataa acatcgattg tacactgtga agtgccagggt atcacactgg ggatgcaaaa 70560
 atgaacaaga gctattgtta ctctccctac ttggagctg ctgacaggca tttctttaca 70620
 tatgatattt tttaaaagtg ctgtgcaacc tgccagtgt acaatagaag tacaaggaaa 70680
 cacatataaa ttttataaatt ttacctgtct gtgagatttg ttgttaattt ataactcttct 70740
 ctttatgttt aattttgcaa aatcagagag aaaaatattt ctttacagaa tgactttaat 70800
 tattttttgt attgttttct tttattcctc tctgttctt ttagtgagaa tatcaaataa 70860
 aatgcaataa aaagtccaat atttagggtg agattttcta gtttttgcat cattcaagct 70920
 ggacagttgc attttttcgg ggggttcaaa ctttaaagtc aaacttttag tatagaggaa 70980
 ccaaagaaaa ttattttaat taattcgtat ttcttggttag tgtctcttg aatgaaaacc 71040
 actagacaag aattactttg tatcgctttg aaatgtccta agtgttggtg tttagagtta 71100
 aggataactt cagggtatcag aagggtggga aaatttctat catgtcaggc tgtgggtgga 71160
 ccatcctgtg gggcaatcgt tccagaaaat gctgggtattt aatgtcacia ggaagctggc 71220
 agaatttagt gagtgtcaat agtcttcaca agttccaaag cctacccttt gatggtacgt 71280
 acagcacagc tgacacatct aaaacataca ttatagaatc cttagccattt agtgggtgaga 71340
 ggagccttg agttctcaca tactgaactt tggttaccag aattacctga tgagtatttt 71400
 ttaagacaga gattcacagt taggcctact aaattggaat tctcgtgaca ggatacagga 71460
 atctggtttt ttaatcatca acccacatga atctgagagc atccagatct ggataccaac 71520
 cactctctag aacagagaag ggggtgaaata ttttgctcta ttgcaagcat tcagttagtc 71580
 tcacacaatt tcatgatgct ggcagaatac atgagcatcc tgaatcacag tgttcatatt 71640
 cgggtttttt tttttttttt tttttttttg gagatgcagt cttgctctgt cacacgagta 71700
 ccctgaacca gagacaaagg actttattat tcatagcaat agcagtagcc agtgttcagc 71760
 atttgactg gctccccaac ccaaccccca gttcccacaa ggcaatgcaa agaggggccag 71820
 atgataccaa caaatgaagt ggggtgtttt aacgagagga aacctgggtc tgaggagcct 71880
 gactctttca taatgggcag atgggggcag taagggttgc acttcacttg ggatgaagac 71940
 atcttctttg tctccaaaa ctgtttgcta tacaataacc cttgaaaaaa taaccogaat 72000
 gaaggtaatc aatgcctctg ttcaacagat gtgcataaac atgggagact cagagagatt 72060
 gtttccccag aattacttag tccaagtctc tcgttttaag gatgaaataa ctgaggtcca 72120
 gagagctaga gcacttagta atacacttta cgggtggcca cgttgggctt ttccaagagc 72180
 tccatttttt ctatgcctat tacactcatg ctttcccagg tacccttatt cctttctggc 72240
 ataggttgcc tagagctagt aagctgtcac aggtgaaata attgaacaga aggacctgct 72300
 gcatgagtga gcagtaatga caaagtacaa atggtgagag caggccaaga gagaacttga 72360
 agtggaggta gtaccaaatt catcaccagt ccaagttgcc ttccctcatt ttatttgact 72420
 tgcaactgta atgaaatgga catgacacag actttcattt aaaatgaatg tggcttttga 72480
 ctttgaagc aaagggaaaa tttttgaaga tccttgctgt tgtctatccc tgccatcctg 72540
 ctccctaaaa gataaattac tgtgttaatg aaagagagca ctaattaagc tttatagtcg 72600

atttgctgta	tatatTTTTg	gtaaatgtca	atagaaaagc	ttttaaaaat	caatacaaat	72660
ctatataagc	tacctaaaat	ccttttctcaa	agtgggtaat	aaattttaaca	aattaatgaa	72720
ttaattacgc	ttaagaccaa	acttgagtag	tatccatagc	aaggaaaaaac	gatggccaaa	72780
aaagacaacg	gaggtccatg	tataatatTT	gcctttgaga	agataaaaaa	ctgctagctc	72840
tgacttaatg	gcaactaaag	agaaatgctg	attaatgtcc	actctgtgtg	atgaaaatgt	72900
gcaatttaga	aatccaaatg	cagtactact	tacctctggg	tactgattaa	ggaaaacctt	72960
actgaaaaca	tctcaatgat	aactgttgac	accacttaat	gtatttttaa	aattattttg	73020
tcttattttca	tatatactgg	cctaccttac	agcttttagcc	agttactata	ttatagaacc	73080
ttgacatttta	ttttaaaaaa	ttgaaaattt	caccagtcct	caccgggtata	aatacaaccg	73140
tagcaaaggt	tttctTTTT	taatgggagt	tatttttctc	caagatccaa	catattttatt	73200
actctctgag	agttaataca	catgtaatca	tgaataaga	actataagct	caccttcaaa	73260
tgcgtattcc	ctcagttcag	tttttattca	agccacagca	atagttttgt	tcaaaacgat	73320
tcctcaaaaa	atacaaaaca	accatatccc	atagacattt	gaggtcactc	ataactaatc	73380
aaactatgac	tcttaaatct	gtgaatgcca	aaggatctgc	tgcaaaatgt	cttgagtaca	73440
tttagatgat	taatataacc	ctctctctgc	tcaaggacaa	ggacattcct	gtgcaggaag	73500
aagttgaacc	tgccccagtt	aggaggattc	tgaatttcag	tgctccagaa	tggccctaca	73560
tgctggtagg	gtctgtgggt	gcagctgtga	acgggacagt	cacacccttg	tatgcctttt	73620
tattcagcca	gattcttggg	gtaagtacac	agctggacta	gctttcttct	tctcatacct	73680
tttatttttat	tatttttgata	agtccgctct	ttgttttcat	gtattttagct	cttttctgtt	73740
agttcatTTT	tctcatctct	aaagaatgaa	aaatttcccta	agcctccatc	acacagaggg	73800
taagaaggca	aagctgagaa	ctctcatttg	ggctcgcagg	gcactcagac	agtcattgta	73860
cctataaaaa	agaaaatggg	actgtcactg	aaaattttgt	gttagaagtg	ggcaattttt	73920
ctagtaatgt	atatcaaaac	taatcaaaat	gcaaagtggg	ttcactgaat	aatacaaaaag	73980
gcttttaggg	aaattttgat	cttgctgaac	agcagaggta	caaagtttga	cttatatagc	74040
aggtgttagt	gtttgatgta	taattctcca	cggattgcac	tattgaaata	gtaatgtgga	74100
taggaagcag	aaaaagaaaag	acagaagtaa	aataaggcat	gattgaaaac	taagcttatt	74160
ccaatttttc	acttccctaga	atttcttatg	ttctctatct	gacttgattg	ctgtaatcat	74220
cataataact	atgaacatgt	atcaggcaat	atctaagcat	tttatgtaca	atagttcatt	74280
taagtttact	aacaaccgtc	taaggtaggt	attcttgtta	tttctatttt	acaaaggagc	74340
aaaccaaggc	acagagagct	taggctagca	agtgggtggg	ttgggattca	aatccagcca	74400
gtgtaactgt	agagccagggt	tctagtaaaa	tcttgtcatt	gcaagattag	ttatcaaaat	74460
ttgatcatgg	aaacagtact	gaaagacagc	tgactagatg	caggtagtat	gtgccttctc	74520
catgaagagg	aatcagaata	gtaggtagat	acttacattt	ggaacagatt	atctgggcta	74580
gaacattagg	attcatcaaa	caagggatgg	gaagcaccag	aaataagaaa	ggagagggatc	74640
taaggcagct	taccaggttg	gggactgcct	gagagccaca	agaggctttt	ggatatgggc	74700
aaacagtaag	agagaaacat	ccagggtccc	aaaatgggct	ttcacaatct	tggctatggg	74760
gtaaatcctt	gacccactag	ggccttttcc	ctgacatgaa	gagctgccta	aagattccac	74820
ggagatgtta	ctccaaaagg	gaaaccacaca	cagaatcaca	caggcatcca	atcctggagc	74880
agcctctgtc	aggcatcatt	ttgagggcct	agataccagg	aatatacaaa	catgcactgc	74940
ctctgcactg	cttcaaggag	agagagggga	gactagataa	tcccatcacc	cccgaggagga	75000
tccctgccat	gctgttggtg	tctactgttg	agactgagtc	atgaacagac	tcagagtagt	75060
atcatacaaa	gatcacacta	ctgcatgaac	ccaaaatcaa	agccaaagta	ttttttaaaa	75120
atctccccta	caaaagcaaa	ttcaaaaatt	ggaacaagca	actgatacat	cagatataca	75180
gatatcaatg	gaagaacata	ggaaacatga	aaaagcatgg	aaatatgaca	ccaccaaaagg	75240
accacaacaa	gtgtccagca	accaataatg	gtgtggcctt	gtgtccccac	ccaaatctca	75300
tgccaaattg	taatccccac	atgttgaaag	aagaacctgg	tgggaggtaa	ttggatcatg	75360
ggtaggggtga	tttccccctt	gctattcttg	tgatagttag	tgagttctca	cgagatctgg	75420
ttgtttaaaa	ctttgtagtc	ttcccccttc	gctctctctt	cctcctgggt	tggccatgtg	75480
aagacatgcc	ttgcttcccc	ttcaccttct	gccatgattg	taagtttctt	gagacctcct	75540
cagccatgtg	gaactgtgaa	ccaattaaac	cttttttctt	cataaattac	tcaatctcag	75600
catcagtgtg	gcctggatgt	gagacaagggt	gtcaaaaaag	attatttttg	agctttaaga	75660
tttaacgact	gccatgctgg	gttttggaac	tgcatgtggc	ctggagcacc	tttgtttttg	75720
ccaattttct	ccttttagaa	cagaaggatt	tacccaatgc	ttgtaccccc	attttatctg	75780
ggaagtaaca	aacttatTTT	tgatttttaca	ggctcatagt	tgtaaggggac	ttgccttgct	75840
tcatatgaga	ctttggactt	agacttttga	gttaatgctt	aaatgagtta	agacttaggg	75900
gactgttgag	aaggcatgac	tgtgttttga	aatgtaagaa	ggacatgagt	ttttggaggg	75960
gtcagggggc	gaatgatatg	gtttggctct	gtgtccccac	ccaaatctcg	tgtcaaactg	76020
taatccccac	atgttgaaag	agggaaactgg	tggaaaggta	ctagatcatg	ggaggagatt	76080
tcccccttgc	tgttctcata	atagttagta	agttctcaca	aaatctgata	aaagtgtgta	76140
gcgcttcccc	cttcactctt	tcttcctcct	gctttgggtca	tatgaagatc	tgcttgcttc	76200
ctctgttctt	tccaccgtga	ttgtaagttt	tttgagatct	cctcagccat	gtggaactgt	76260

gagtcaatta	aacctctttt	cttcataaat	tacccagtgt	caggaatagc	agtgtgagaa	76320
cagtttaata	gagataccaa	tgaaaaagaa	tttcttgaaa	tgccgggtaa	ataattttaa	76380
atattgattt	ttaaagatag	taaaatgcaa	gagaaatctg	aaaaccaata	caaagaaatc	76440
agaaatcaat	tcaggatatg	aatgagaaat	ttaccaagga	gataaatagc	attttataaaa	76500
aataagcaga	aattctggaa	ctcaaaaatt	cattgaagga	aatacaacat	acacttttaa	76560
gcttaaataca	tatactagac	caagcagaga	taagaatttc	agaacttgaa	cacatgtctt	76620
ttgaaataat	ccagtcagac	aaaaataagg	aaaaaagaat	aaaaagaatg	aacaaagcct	76680
ttgagatgtc	taggactaag	taaagggact	gaacatggac	taaataaagc	aactgaactt	76740
atgaattatc	agtatcctga	aagggaagag	agatcaaaaag	gttttagaaaa	catatttttaa	76800
aaaatcatca	ataacaacct	ccaagtctg	tcaagactgt	tagacaacca	gttcagaagt	76860
ccagtgattc	cccaggcaaa	cacattacaa	aaaggaattc	accattatat	attatgttca	76920
gaatgtctaa	agtcaaagta	aaagaaagaa	tttttaaatt	agcaagagta	aagcatctac	76980
tcatctataa	aggaaacccc	atcagactaa	tagcagactt	ttcagcagaa	accttcacag	77040
ccagaagaga	aagagatggc	attttcaaag	tgctgaaagg	aaaaaaaaaa	ctgtcagcca	77100
agaattttgt	gtcctgccag	aataagcttc	ataagtgaag	gagagataaa	gttcttccca	77160
gacaaggaaa	catttagaaa	aattatcacc	actagattgg	acctacagga	aatgctcaaa	77220
ggggtcttaa	acatggaac	aaaaggtcat	tgctcaccat	cacaacaaca	cattgaaata	77280
taaaactcac	agttcatata	aaataatcac	acaaggaaga	agagaaaaaa	ataaaatggc	77340
ataacagaat	ttcatcaaac	tacaaagaca	aaaaaacag	aaaaagagg	aaacaattta	77400
taaaataact	tgaaaacaat	cagcaatatg	acaggaacaa	agcctcacat	atcaatatta	77460
accttgaatg	tgtgactccc	aaaaatctga	gacaggtccc	agttaattta	gaaagtttat	77520
tttgccaagg	ttgaggatgt	gcacccatga	cacagcctct	ggaagtctct	acaacatgtg	77580
ccaaggcag	tcagagcaca	gtttggttgt	atacatttta	gggagacacg	agacatcaat	77640
caacatatgt	aaggtgaaca	ttggtttggt	ctggaaaggc	aggacaagcc	aaagcagaga	77700
ggggtcttcc	agggtcatagg	tagataagag	acaaatgggt	acattctttt	gagcttctga	77760
ttagcctctc	caaaggaggc	aatcaggcat	ccctttatct	cagttagcaa	aggggtgact	77820
ttgaatagaa	tgggacgcag	gtttgcccta	agcagttccc	gatttgactt	ttctctttag	77880
cttagtgatt	ttgggggccc	atattttcct	ttcaciaaat	taaatggatt	aaatgtccac	77940
tattaaatac	atattggaag	aatggattaa	aaaaataatc	caactaaatg	ctgactataa	78000
gaaactcacc	ttacctataa	agacacatac	agactgagag	taatggggcg	taaaaagata	78060
ttccatgcaa	atggaaacca	aagttgagca	aaagttagcca	cacttatatc	agataaaaaca	78120
ctttaaatca	aaaatagttaa	aaaaaaaaaa	agacaagata	attatgtaat	gataaattca	78180
acaaaacggt	ataacaattc	taaatatata	tgaactcaac	atcagagcac	ccaaattcac	78240
aaaacaaata	taagcaaaac	taaagaaaga	tagggcaatg	caataatagt	gggggaattt	78300
aacatgccac	tcacacacta	gccagatcat	catgtcagaa	aatcagcaaa	caaacattgg	78360
acataaactg	gattttatat	caaacttaac	agacatttac	agaacattct	acccaacaac	78420
tacagaatgt	acagtctttt	cctcaggata	tggaaacattt	tgcaagatag	atcagatatt	78480
aggccacaaa	acaagtctta	atgaattttt	taaaaactga	agccatatca	agtatcttct	78540
caggccacag	tgaaataaaa	ctagaaatca	atactaagaa	gaagtttgga	aactatacaa	78600
atacatggaa	attaaacagc	atactcttga	ataatcactg	ggtcaatgaa	gaaattaaga	78660
tggaaattag	aaaatttttt	gaaatgaatg	aaaatgaaaa	cacaacatac	caaaacctgt	78720
gagatacagc	aaaagcagtg	ctaagaggga	agttgatagc	attaaatgcc	tacataaaaa	78780
agtagaaaga	tcacaaatta	acaatctatc	attgcacttc	aagaaactag	aaaaagaaca	78840
aaccaaaccc	aaagtttagca	aaagaaaaga	aataacaaag	accagagcag	aactatacaa	78900
aatagaaaca	aacaaaaaaa	aaaaaaciaa	ggagcaatga	aacaaaaaat	tgtttctttg	78960
aaaagataaa	attgataaac	tgctagctaa	tcaaaaagag	agaaaatcca	aataaactca	79020
atcaaaaatg	aaaaagaaga	tattataaca	gataccacag	aaatacaaaa	gattatcaca	79080
gactattatg	aaaacctaca	ctggaaaaat	tagaggaaat	agataaattc	ctggaagcgt	79140
gcaacctacc	aagattaaat	caggaagaaa	tagaaaacct	gaacagacta	ataatgagta	79200
gcaagactga	gtcagtaata	aaaaatttcc	taacaaaaaa	aaataaaagc	ccaggaccag	79260
aaggattcat	agctgaattc	taccaaacag	gcagagagct	aataccaatc	ctcctgaaac	79320
tatttttagaa	atcagaggag	ggaattctcc	ctaactcatt	ctacaaggcc	aatatcacct	79380
gataccaaaa	ccagactagg	acatcacaaa	aacagaaaac	tacagaccaa	tatctctgat	79440
gaacatagat	gtaaaaatcc	ttaacaaaat	aactgaatcc	aagagcacat	caaaaagata	79500
acacaccatg	atcaggtggg	atttatacaa	ggcatgcaag	gatggttcaa	catatgcaaa	79560
gcaataaaca	tgatatatca	cataaacaat	attaaggga	aaaatttatca	tttcaataga	79620
tgcagaaaaa	acattcaaca	aaattcatca	tcccttcttg	ataaatattc	tcaataaact	79680
aggcatagaa	ggaacatact	tcgacataat	aaaagccata	caaaccaaca	gcaaatatca	79740
tacttaatgg	ggaaaagtgt	aaagaattct	aagaactggg	acaagataag	gatgccattt	79800
ttcaccactc	ttattttaaca	tagtactgga	agtccttgcc	agagcaatca	ggcaagagaa	79860
aaaaataaaa	aggcatgcaa	attagaaaag	aggaagccaa	attatccctg	tttactgatg	79920

aaatcatatt	atztatagaa	taccctaaag	acttcaccaa	aaactcttaa	atthagtaag	79980
tgaattcagt	aaactttcag	gatacaaaat	taatttacag	aatcaatag	tgtttctata	80040
caccaatatt	gatctagttg	agggccaaat	catgaagtta	atcccattta	caatagctac	80100
aaaaaaaaata	cttaggaata	tattttaagca	aagagggtgaa	agatctccct	aaggaggacc	80160
acaaaacact	gataaaaagaa	atcatagatg	ccacaaacaa	aaggaaaaac	atcccatgct	80220
catggattgg	aagaattaat	aacattaaaa	tgaccatact	tcccaaacca	atccactgat	80280
tcaatgcaat	cactatcaaa	ttaccaatgt	catttttcac	agaattagaa	aaaaacaatt	80340
ttaaaattca	catggaacta	aaaaaaagag	ccctaatagc	caaagcaatc	ctaagcaaaa	80400
ggaacaaagc	taaaggtatc	atattatttg	gctgactaaa	ttattctacc	aaggatatac	80460
aatagacaca	tagatcaatg	gaacagaata	gagaaccag	aaacaaagcc	acatacctaa	80520
aaccaagtta	tctttgaaaa	agtcaacaaa	aatattcatt	gaagaagtga	caccctactc	80580
aataaaagggt	gctggaaaaa	ttggatagca	gtatgcagaa	gaaagaaatt	agaccatac	80640
ctctcaccac	ttacaaaatt	aacacaagat	agatagaaca	cctaaacata	gacctgaaac	80700
tataaaaaata	ctagaagaaa	acctaggaaa	aactcttctg	gacatttgct	taggcaaaga	80760
athtaattca	aagtcctcaa	aagcaaacac	aaccaaaca	aaaatagaca	aatgggaata	80820
aattaagcta	aaaagctttt	gcacagcaaa	agaagcagtc	aacagagtaa	acaaacaact	80880
tacacaattg	gagaaaatat	ttacaaacat	tacatccaac	aaagggtctaa	tattcagaat	80940
ctatagggaa	ctcaactcaa	gcaacaacca	aataatttca	ttaaaaggta	ggtgaaggac	81000
atgagcagat	atttttcaaa	agaagacata	caagcagcca	acaaacatta	aaaaaatgct	81060
caacatcact	aatcatcata	gacatgtaaa	ttaaaaccac	aaagagatac	cattttacaa	81120
cagtcagaac	agctatcttt	aaaaagtata	aaaacaacag	atgttagcaa	agatgtggag	81180
aaaaaagaat	gcttatatac	tgctggtgag	aatgtaaatt	agtacaacct	ttatggaaaa	81240
cagaatggag	atthctcaaa	gaactaaata	tggaactacc	atthcatcca	gtaatcccac	81300
tactgggctg	tattagggac	agcgttctct	agagggacag	aactaatagg	atatatatcc	81360
atatatgtat	acacacacac	atatacacat	atatatacat	atthtataggc	gtthtatagga	81420
tatatatcct	atthttgtgtg	tgtgtgtgtg	tgtgtgtgtg	tgtatatata	tatatgggag	81480
taatagcata	tatatcattt	tatatatata	taggagttta	ttaaagtatta	acttacacat	81540
gatcacaaag	tcccacaata	ggctgtctgc	aagcttgagg	ggcaaggaag	gccagctga	81600
gtctaaaaac	tgaagaactt	tgagtttgat	gtttgagggc	aggaagaata	cagcaggaga	81660
gaaagatgta	ggctgggagg	ctaggccagt	cttgctcggt	tacatttttt	tcttcttgct	81720
ttatattcac	tgagagctga	ttaaattgtg	cccaccagat	taagggtggg	tctgccttcc	81780
ccatactgct	gattcaaatg	ttaatctcct	ttgtcgacac	cctcacagac	tcaccagggg	81840
gatcaatact	ttgtattctt	caatcaagtt	gtcactcagt	attagccatc	atatgggcat	81900
atacaaaggg	aaagaagtca	ttatgtcaaa	aagatacctg	cactcatatg	tttattgtca	81960
cactattcac	aatagcaaag	acacagaatc	aatctaaatt	tttatcaaca	gaggattgga	82020
taaagaaaat	acgatatacc	atggaatact	actcagccat	aaaaaggatg	aatcatgtc	82080
ttttgcagca	acatggacag	aactggagga	cattacccta	agtgaaaaaa	ttcagaaaca	82140
aaaaatcaga	tgccacatgt	tctcacttaa	aagtgagagc	taaacaatgg	gtaaacatag	82200
acatacaggg	tggaataata	gacactaaag	actccaaaag	ttgggaggat	gggagggaga	82260
tgaaggttga	aaaattgcct	attgggtaca	atgttacta	ttcagggtgat	gggtgacta	82320
aaagcccaga	cttcaatatg	catgtaagaa	atctgtgctt	gtacccctta	aatatacaaa	82380
aattttaaaa	agttaatttt	aaaaaagcag	tttaaaaaaa	tgtgatcatg	ttttcttggc	82440
tgaaattcac	acacacataa	atacacataa	atcctttgag	gtccacaagg	aaggaaacct	82500
agaactgtca	acttgtacaa	ggtgatgggg	ccaggactag	ggcccagggt	taccgaatcc	82560
tagtctatag	aatttgccaa	catatcacat	tgtcagagct	tattaaatga	taaaagctta	82620
catttttagtt	ccctactcca	tttctttctc	tcacatcacc	tctcctgacc	gtaaaaatga	82680
ccccacaagc	atgagttgta	cagaaaaacc	tgataaatcc	acaaacaaaa	tcaagtccat	82740
cgtgtaagga	gggcccagc	caccactgta	gttttcgcat	tgcccccttg	tggttaagtga	82800
agaaatcaca	ttaatttcag	aaaggtagag	aatcggaac	actcaacttt	gattaactga	82860
atthctagtt	atatggtgcc	ataaactttt	atgctgaaaa	tctttgaaat	aatttatatt	82920
tcttgatttc	ctagtaggta	caatatccaa	atataaaatg	aatcatcttt	tattccctcg	82980
acagatctgt	attgattgtc	ttccccagac	atggtgctgt	ggactgggga	atgcatatcg	83040
gttatgatgc	tttccctagt	ggagtthtca	gtctgtgagg	aagataacat	caacaaaaaa	83100
aaaccactc	atcattcaac	agatatttac	cacctatagt	tttccaggca	ttgtaactaa	83160
tggtgggcat	agagtggagg	acaagaaaat	cattgtgtgt	ttgtgtgttg	cttgacaaaa	83220
gctgacattc	tagtagggag	aagctgggga	agtgcatttc	actgggcaat	gatgttagtg	83280
tagaagggtg	agggaaatag	gttgatcag	aaagaatcca	agcctgtgtc	ctggatgttt	83340
gctttttaaa	agaaatccaa	aatgtcagct	tctttgctga	ttatttcttt	acctcttata	83400
aaagcagagt	aaagaatatc	ctcaccatc	tccacctaaa	ctgtgcatat	gagctgctgt	83460
ggagagttct	gactttcctg	tcaggagatc	tttcttctga	aactggctct	tctagttact	83520
taccacatcc	tgtgtgccct	gggatcatgt	catacctctt	ctcccggtct	ccatttcccta	83580

caaaatgcag	gattttaaag	atgatctcta	agatatcttc	cagctctagt	ggcccatgaa	83640
atggctaagt	taaaaaaaaa	aagagattca	actataattg	ctgtccctct	tgagcacctg	83700
cttggtcatt	gggtggtgaca	atattctctg	tgtttcttct	ggtgacaacc	agaaacctta	83760
agatggactt	agagacttaa	gggctgcagg	accagagtag	gcagcatcta	ggatgatgaa	83820
tccaaagtct	actcgtcggt	cttgttctca	cagggttata	tttgctaaga	gaatgatgcc	83880
gaacaaacca	ctatttttcc	tctctggtag	agtaggttgt	ctctttgcat	aattatcatg	83940
tgttcattag	taaactcatg	atgctttctt	ctcacagggt	ataattgtga	gtctatttat	84000
agttgctcta	ttttccttct	gacataccta	aagggcacia	tatgcacatt	tggtgtattg	84060
agaccacact	gtgggaatgg	acccagcaaa	tgattggggc	ttattaggag	cccagttgcc	84120
aatctagcta	agcctcaata	tacatgtaag	gcgtaatttg	tctgcttcac	tttccctgtg	84180
tccatttgac	ttggaaaatg	tgccaatggt	ccaagcacag	cacttgggat	gtagcatgct	84240
ggggaaaaaa	aaaaatggat	gtgagagtcg	ccagctctgg	attttagta	ggctctctact	84300
ctgtactatc	tgtatatatt	taggtgagtg	atttatcctt	gataaatttc	ctcatctgta	84360
taaggagcaa	gaaaatctac	ctcactgggt	tgttttgaga	atcataattc	ctaatttaag	84420
ttacagcagg	ttaatctacg	catttgacat	gtggcacata	gcaaaagggt	aatgaatggt	84480
agttttctcc	ttcaacaaac	ttaccattac	aaaaatagca	aagatgtgtg	ccaaaactac	84540
aactagtaaa	ggaacagagg	aatctatgga	tgatagcccc	ttggagttgc	atttcaacaa	84600
taagaatata	caaagaactc	gtggagcaga	attttgtgaa	aaaagattat	ggatagagag	84660
atgcccaccc	ttgaattgga	cagttgtatg	aattttaaca	ttagctaaat	gctctttctt	84720
tttttaacac	tgagaaggta	agtaatacaa	aaagctaaaa	gagcataccc	aatagaaaac	84780
cactgcacca	gaagccaaaa	aacaggcatt	ttcttatcta	gtaataacca	ctagcttaat	84840
gaacttgaac	aaacaacttg	atgtttgggg	ctttattttc	catctataag	agttaaatgg	84900
gaaaatctgc	tgttctatag	accatcatta	taaaagggtga	ccttaaggag	gaatgggaat	84960
tgtggcatcg	cagtttgagg	tttcagggtga	tttgcacagt	aattttaaaa	atattttatct	85020
ttaaattttt	gaatttttag	actctgtaaa	cttacgagtt	atgctatgct	gggaagaatt	85080
actgtgctac	ttctgaacc	cacttttacc	agtattgagc	accatgaagg	ccctagaaac	85140
ttcatcctac	aaacagtaaa	atctcattaa	tttagaacc	ctcctactca	ctttgtaatt	85200
tgccataatt	tgaacgggtt	acttttgctt	tacaaaaaaa	aggatttggt	aatggagtag	85260
cacatattgt	ttccaaggag	atttatattg	caaataatag	ctacttagta	aatatttttg	85320
aataaatggt	ctcctttgaa	caactatttg	ttgacactgt	tttaatgact	caaattaatt	85380
caggaaaatg	aataaagatg	tattgtatag	ctctctaagt	catacttctg	accttcccag	85440
ttccctcacc	tggcctaaat	tacaaagggt	ctgttatgca	caaaatccat	ttcaccacaa	85500
ggcaatgtca	ttggagtatg	ttctttcatt	tttcttattg	taacaagatc	ctcagttact	85560
tgaacagatg	tctgtaaatt	cagaatacgt	ttgagtgtag	tttactaagc	attatacact	85620
aaaaactccc	actcacaatg	gccgtagttt	tttagggggg	gggggaatgt	ttcagcttct	85680
ggtagagttg	aggcaacaac	ctcaatatca	gatgaatgaa	atttttttct	ctcctaaggc	85740
aattccagtc	aatgctttga	tagtttcttt	tttaatgctg	tatagtctat	aaaactaatt	85800
aaccggcaaa	ttacctgagt	gaaagtcata	ttttctttca	tttagtaata	gagaaagata	85860
tcgggtcaaaa	tattaataca	actttgagtt	ttgtcccaga	caacatttcc	agatctcgat	85920
tccctccctc	cctcccttcc	ttcccttttt	ccttcataac	tccctctctc	cttccctccc	85980
tctttgcttc	ctttcttctt	tcttcccttc	cgtcctctct	tcttcttctt	gtccctcctt	86040
cctttccctc	cttcccttct	tcttcttttc	tcagttttat	tacttaaatg	ttttaatcat	86100
tttatcatcc	ttttcatctg	tggtgatgaa	aaaccaacac	aattgcctaa	aaaggcaaaa	86160
taacaagaca	aaaattctgt	aagtcatcac	cattgggtttt	cattcaccag	gttttccgcc	86220
ccacagagga	ctgtagtaca	tcgtcatcat	attcttagct	aactttcgtt	taattactag	86280
catgtttaaa	gtggaaccat	tatttaaaag	actttatttt	ttagagcact	tttaggttta	86340
cagcaaaatt	agaggaagg	acagagattt	cccatatacc	ccctaccacc	ctacacgcat	86400
aacctcccc	attatcaaca	tctcccacca	gaatgataca	tttccctacaa	ttaatgaaca	86460
tacattgaca	catcattatc	acagatccac	agcttacatt	agggttcact	cttgggtgtg	86520
tatatattat	gaatttgagc	agatatataa	tgacatggta	agaaaaattc	attttaaaca	86580
tgtaaataga	tttatttttc	tattttataat	aaagttactt	tcttgtttac	tatctttcca	86640
agactttttc	aattcctgat	aaagaggaac	aaaggtcaca	gatcaatgg	gtgtgcctac	86700
tttttgtagc	aatgggctgt	gtatctcttt	tcacccaatt	tctacaggta	agaaatgtta	86760
tttttcagta	agtgatttag	ttatttttcc	ttttttctca	ttaaaatttc	tctaactctt	86820
ccctcttcat	gttttagggg	tatgcctttg	ctaaatctgg	ggagctccta	acaaaaaggc	86880
tacgtaaatt	tggtttcagg	gcaatgctgg	ggcaagatat	tgcttggttt	gatgacctca	86940
gaaatagccc	tggagcattg	acaacaagac	ttgctacaga	tgcttcccaa	gttcaagggg	87000
tgagctatgg	gaggggaaat	agaagtatat	taactgcatt	ggcattcttt	cattagagca	87060
ttctgacaat	cacctgcatg	ttttctatgg	aatagggacc	agtgggattg	ggatatccta	87120
aagccacatt	ttccactgct	tctaacactg	acaaacagca	gctaaagcac	agtgctctcc	87180
aggcagtgcc	cagaatcaat	atatggcatg	cacaaaaatc	tgctcagggt	ttggatttcc	87240

tctgagtccta	acttaggaac	atttctgagt	ctgttttcag	gcccagagac	tcagcttcaa	87300
caagattcaa	tactgcccc	cagggggtg	gtgaacaggg	caaggaagtc	tccttactca	87360
cacaggaccc	cagagtgtgg	tttagcctta	tgaacagaga	agctgtcctg	ggcagcctct	87420
ggaggagccc	agtcaggaaa	ctgagggaaa	gaaataaacg	atTTTTatct	agaatcttga	87480
aggcgtcgaa	gagctgactt	tctgattaag	gtagacagag	ctgtggtgtg	taaaccccaa	87540
aacctacagc	cttgttcaag	gggcttacac	atatgatgag	gctagacttt	tacaaaacca	87600
ggtgtttgga	ttaaagtga	gagagccaaa	ttgcccttcc	aacatctcta	cccactttct	87660
gtgaaaattt	tttaaaaaac	cctaatttaa	aattatTTTT	aaaaagaaat	aatatgttaa	87720
taaattcttt	aaaaaacaaa	accaaaggaa	aaaaatTTTt	agtacaattt	taaaactgaa	87780
ctatggtctg	tgaggctctt	agaagaaaaa	actcactgga	ctgatagtgc	tgtactgtag	87840
tctcaactcc	tagacagttt	aacccaaaaa	acccaaaatg	atatggcaga	atttcaacgg	87900
atcatggaat	cctttcactt	agggggaaat	ccctataaat	aggccacttt	caattcatct	87960
aggctttttc	tggaagcaca	tgtgtttccc	atagacttag	ggttacactc	tacatatgtg	88020
ttgcagtctt	tcttgtttcc	cctgaaataa	tctaagggtga	acataattttc	ataattatgt	88080
attcttctac	agtagatttt	taatgagtg	acaatacttc	attctcatct	actgtcatgt	88140
cttaaaggat	tctctagtta	cgtttttccc	ctaggTTTT	ctcctcctta	taagcaattt	88200
atatcatttt	atctcgagct	tgccacatcc	ttgattatTT	tcttagttct	caaaatgtaa	88260
tcactcaatc	agtgtataat	catttttgaa	gattttgata	tgcattgcat	aactgcttaa	88320
agaaactttg	ttccaatttc	actctcatca	ttggagtact	gtagtctact	ccctttactc	88380
ttgaatttag	gctaaataaa	taagtcataa	tcttatctct	tctatTTTTg	tggccttcaa	88440
tctgcaagga	gcttttgaag	gttatttgct	atcactagaa	ttcagagagt	agcatcta	88500
tatcttaaaa	acacttatct	ttttaaaaag	aggattttct	cagaattttt	ctaatacttt	88560
tgttgttttt	taaaaataaa	gattgctagc	ccagggtcaaa	cttatcttaa	gattagtgtg	88620
aggtagattt	ggctttgttt	tcttgaagtt	ggatagaaaa	tatttcaaaa	atatttttta	88680
aatatagatt	acatttttcta	ctgggttgaa	atgtttcctc	ccattgtgaa	tattaacttc	88740
ccatatatac	ttagaactaa	ccttgagat	tctctagtct	gaattgatca	atttgactta	88800
ttctatttaa	aaccttattg	ttttagtTga	taattTTTTt	taatttttgt	agatagatac	88860
caagtaggtg	tatatattta	tggggtacat	gagaggTTTT	gatacaagca	tgcaatgtga	88920
agtaagtTga	ttatgaagaa	tgaggTatcc	attccctcaa	gcacttatcc	tttgtgttac	88980
aaacaatcca	attacactct	tagttatttt	taagtgtaca	attaaattat	ttattatagt	89040
cattctattg	tgctatcaaa	tagtatgtct	tattaattct	ttctatTTTT	ttttttgTgc	89100
cctttgtttt	aattcttata	acttgataca	ttttagtatc	tggtaaggca	aatccctgca	89160
cactaatTTT	tctctctTga	aattctctta	tctatTTctg	gatgttaatt	attttaatat	89220
attttacact	catttttaact	tcttctaaaa	atttatTTTT	attctggtga	aattcatatg	89280
cacacataca	tacacagtag	gattgctatt	gtggggatac	taaaTTTTcc	tgagagacat	89340
acaaacaaga	ctctagTTTT	tagcaagatt	catagttata	tgtcccacta	tcttgctcac	89400
tttttctcat	gtattTTTTc	cactattTTg	aatgagatct	ttttctcaat	tatatctgta	89460
aatgagttga	gatgaaagct	gttagTTTT	gtatacttat	cttaaggact	ttccaagctc	89520
tcttataagt	tataattTTa	gaaattTaat	agtctactgg	gttttctagg	tatataataa	89580
aataccagat	atagttctga	aatattacag	gtttggTTTT	agaccaccgc	aataaagaga	89640
atattgcaat	aaagcatgtc	acactaatTT	tttcacttcc	tagtgcatat	aaaagtTgtg	89700
tttacactat	actgtattct	actaactatg	caatagcttt	atgtctaaaa	ataaacaatg	89760
tacatatctt	aatttattaa	tagcaactga	ctgaccacgg	tggTggtTgc	tgaaggTtag	89820
actggcaata	tcttataaga	caactgtgaa	gtttgcctca	tcaattgact	cttctctca	89880
tgaaagattt	atttTtagca	Tgtaatgctg	attgatagta	ttttaccac	agtagaatgt	89940
ctttcaaaa	tggattTgag	tctctTaaac	cctgctgcta	cttttattaa	catagcattt	90000
tcaccaggag	tggatttcat	ctcaagaaac	cagtttgctt	atccataaga	agcaactgct	90060
tatccattca	agttttatca	TgagattTga	gcaattTaat	gcagcacatc	ttcagactcc	90120
acttctaatt	ctagttatct	Tgctattttc	atgacatctg	cagttactcc	ctctgaagtc	90180
ttgaactctc	aaagtcattct	gtgagggtTg	gaatcaactt	ctttcaagca	cctatttatg	90240
tggatatctt	gacctcctcc	catgaatcac	aaatgttctt	tcataaaatat	atatatacat	90300
ataaagtTga	tatctatata	tacactgTaa	gttctagggt	acatgttctt	aatggcatct	90360
agaatggtga	atcctttcca	gagggtTTTT	aatttacttt	gcccagttcc	ctcagaggaa	90420
taactatggc	agatTtagcc	ttgtaaaatg	ttacttctta	aataaaaaaga	cttcaaaagt	90480
aaaattactc	cctgacccat	gggcagcaga	attcatgtTg	ggTtaacaag	cacaacaaca	90540
ttcatctcct	Tgtacatctc	cgtcagagca	cctgggtgac	taggtgcgtt	gtcaatgagc	90600
actaatattt	ttgaaagctg	tattttttcc	Tgaacagtag	gtgtcaacag	Tggcttaaaa	90660
tattcaaaaa	actgtgtttt	caacagatgt	gctgtcatcc	agcctttatt	attctattta	90720
tagaacatag	gcagaggaga	tttagcatgc	ctcttagggg	cctagaattt	ttggaatggT	90780
aagcttcaac	ttaaagtcatt	cagctgcatt	atccccTaac	aagagagTca	gcctattttt	90840
cgtaagtttg	aagtcaggca	ttgacttctc	ctctctagat	atgaaagtcc	tagatggcat	90900

cttcctccaa	tagaaagctg	tttgggtcaac	acggaaaaata	tgttatttgg	tgtagccacc	90960
tttatcaatg	accttagcta	gatcttctgg	agaacttgtg	gcagcttcta	catttagcact	91020
gctgcttcac	cttgcacttt	tacattgtgg	agatgctttt	ttccttaaac	ctcataaagc	91080
aactttttctc	ccaaagcttc	ctcacttctc	tcagccttac	tagaattgaa	gagagttagg	91140
gccttggttct	gaattagggt	tggccttaagg	caatgttgta	gcaggtttga	tcttgtctcc	91200
agaccattca	aacttttctc	atatcatcaa	taaagctggg	tcacttcact	ttcttattat	91260
ttgtgtgttc	actagaatag	cactttttaat	ttccttcaag	aacttttttt	ttctgcattc	91320
acagcttgac	tattttattta	gtcctatctc	aggactaaat	gaggctaaaa	tgaggcctaa	91380
cttttagcct	atctcagcct	tcaacacacc	ttcctcactg	agcttagtca	tttctagcct	91440
ttgattttaa	gtgagagatg	tgtgacttta	tttcaactga	acacttagag	gccaaggtag	91500
cgttattagt	tggcctaatt	tcaatattat	tgtgtctcag	gtaataggga	ggtctgagga	91560
tagaaagaga	gagagacaga	atgaccagtc	agtggagcag	tcagaacaaa	cacattttatt	91620
gaataagttt	tcagtccttat	attggcgtgg	ttcgtgggtg	tctaaaacga	tggcaataat	91680
aatgccaaag	atcactgatc	acagatcacc	ataacagata	taataatgaa	aaagtttgaa	91740
tattttgaga	attactaaaa	tgtgatgcag	aaacataaaa	tgaacacata	ccattggaaa	91800
aatggcacca	atagaattgc	tctgcatata	cagggttgcc	acaaaccttc	cattagtaaa	91860
aatcacataa	tctgctaagc	aaaaaatgca	aaaaagatca	ttttgtcttt	tcttttcttt	91920
tttttatattt	atactcattt	tattttctta	ttatattagc	tagagctcat	tgagaaataa	91980
gagtggtagt	agaggtgatt	ctctcaagca	agacaaaaac	tcaaaaactac	aaagtagaca	92040
tgttggaactt	cataaattca	aaacttttat	ataaacaat	gataaactag	aaaagcattt	92100
ataataaata	ttaatatccc	taataataacc	atattatgtg	tagtgttcct	aaaaccatca	92160
tgaacgatat	tcatgaggat	ggggaataac	tgacactttc	atacaatgta	caaagttttt	92220
caatgttttt	tggagagtaa	tagtaaataa	tagtaagcaa	atgttttgga	gagtaatagt	92280
aaataatgat	atcccccaa	aaacttttaga	gttgcttttc	aagtattgtg	taatgcctga	92340
cagtccttgc	caaccagaaa	ttctttttct	tttttaatta	tatactcttt	gaacagaatt	92400
ctgatgagt	aattccctcc	tattgtgtaa	gaatgtgtgt	tcaaggatat	ttatcatttt	92460
ttatatatac	caaaaaatta	ataaaattcc	ctggaaacta	cccaaatatc	catcaacaga	92520
aaaagagttg	aatcaattat	gatacattta	tactaaggaa	tattgcacag	ctatttttta	92580
aagtgttcc	atatattgat	ctggaaggat	agttatgtac	cattgataag	tgaaaaaaag	92640
tcaaagtaca	aagtaatatg	tagagtatga	gccctttttg	taaagaaaaa	aattaaaaata	92700
tatgtatata	ttgttaaata	tgtatctatg	ttttgtttgt	gtcttaggtt	gtattatttt	92760
caatttttaa	aaaaatacca	attgaataaa	atgtaaaagg	aaacaaaata	acgacatccc	92820
aaagagctgc	aaagttgctt	ttcaagtcct	ctgtaatgcc	tgacagtcct	tgccaacca	92880
aaattctttt	ttaaaaaaa	ttgtggtaaa	atatttgtaa	cacaaaattt	actactttta	92940
ccatctttta	gtgtacagct	gaatggcatt	aagtacattt	acattgttat	gtaaccatca	93000
ccactattca	tctctagaaa	tgttttaccg	ttccaaagag	aaattctgta	cccttgaaac	93060
ggcaactccc	catcctgctc	tccctcccct	cagccccagc	aaccaccatt	ttactttctg	93120
tgtctatgaa	cctgactact	ctatgtacct	catctaagtg	gaatcatatg	aatttatcct	93180
tttatgtctg	gcttatttca	cataacatga	tgtttttgaa	gtttctctat	gctatagtat	93240
gtgtcagagc	tacattttta	tggatgttta	ttttatggat	atatcatgtt	ttctttattc	93300
attcatctgt	ctgtggacat	tcaggttggt	tggctgttgt	gattaattct	gctctgaacg	93360
tgggtgtaca	aatgagaaat	tcttgattta	gcctgttagt	ctccaaggaa	gtcagcacta	93420
acacatggga	atgctttggg	acacaatttt	atattccatt	tgtgtcttca	attcagtata	93480
aagatgcaaa	ttattcctga	ataacagtgc	cttagcatcg	aatgggtact	aacagggttac	93540
cttttgcgt	tttacatttt	tttgtcttaa	ataaaaaatgt	gtttctacaa	ttttaaaaag	93600
aagtgatgta	attgtcctca	cccaagtatt	ttctacagag	tgtgccaagc	tttggctgta	93660
cctgcctagc	tgcaactgaa	acgacgattt	ggaaccattg	gatactctga	ttagtataga	93720
tataattacc	acagtggctc	attctccatc	tatatgtgga	ctgaatccat	tttgtccatc	93780
tgcattgact	aaatagctgt	gtattacagc	agcatgtaac	tttgtaccaa	cgagcaggct	93840
aacttcaatg	agaatcaaag	tggatcttta	taagtactct	gtatcaactt	caaaaatata	93900
attatagagc	aagcattaat	cttcattgaa	taagtaatat	tacctcaagc	ccaatggctg	93960
gatatcttca	aacaagccaa	atgcatcagt	acttgacaca	tgtgtagccc	atggttaggg	94020
ctgcattaat	ctcagacaga	ctgctctagc	actgacactc	ttaaaatgag	attagtcaat	94080
aatgaactt	cggataagct	atgaataaag	aaccttttaa	ttaattcagc	cttcagatac	94140
gttatgtgag	ctcatcattt	aaaagaactt	aatcattttaa	aagaacttaa	ctttttgaac	94200
aggggactac	catatgaccc	agcaattcca	ctcctagggtc	tatatccaaa	agaattgaaa	94260
gcagggactt	gaaagggtgct	tatacaccag	tgttcatagc	agcattattc	acaatagcca	94320
aaagttggaa	ataaccccag	tgtccatcaa	tggatgaatg	gatatacaaa	atgtgatata	94380
cacatacaat	ggaatattca	gttttaaaag	ggaatgaagc	taggtgtgat	ggctcgtgcc	94440
tgcaatccca	gcaactatggg	aggccaagg	gggaggatca	cttgagctta	ggagtttaag	94500
accagcctgg	gcaacatagt	gagacctcat	ttctactaag	attaaaaaat	tagcaggtgt	94560

agtggcatgc	atctgtggtc	ccagctactt	agcatgctgg	ggcaggaggg	ctgcttgagt	94620
ccaggaggtc	aaggctacag	tgagccataa	ttatgccact	gccctccagc	ctgggtgaca	94680
gagtgagacc	ttgtctcaaa	ataaaataaa	ataaacaaaa	aataaaaaata	aaaaggaatg	94740
aaatttgtat	acctgctaca	acatgcctga	agcttgaaaa	cattatgctt	agcaaaataa	94800
gccagacaca	gaaggaaaaa	tattgtatga	ttctacttct	agagatacct	agggtaggca	94860
aatttatata	gacagagagt	tagaatagaa	gtcaccaaga	gcttggggga	gagagaagaa	94920
agggaggtta	ttgtttaatg	gatacagagt	ttttgttgga	catgatttta	aaagcttttag	94980
gtatagatgt	gtgatggtta	caaaacattg	tgaaatgcca	ctgaattgta	cacttaagaa	95040
tggttaaaat	gatatatatt	gttatgtata	ttttatcaca	actttataaa	aggtctgacc	95100
tttttgtgta	atggtaattg	gtaaaagcga	ctgtgtgtct	gagacgggtt	gattgctttt	95160
tggtttgcag	gctgccggct	ctcagatcgg	gatgatagtc	aattccttca	ctaacgtcac	95220
tgtggccatg	atcattgcct	tctccttttag	ctggaagctg	agcctggtca	tcttgtgctt	95280
cttccccctt	ttggctttat	caggagccac	acagaccagg	atgttgacag	gatttgcctc	95340
tcgagataag	caggccctgg	agatgggtgg	acaggtaatc	ttgcagatct	aattttccca	95400
ttcctcatgg	ctgagtggct	atcagacaaa	ctgttaaaaa	cgagtagtac	gaagagactg	95460
aaggaagctg	tcagcccaca	agacaggcac	acttaagaac	cttccaccac	cctttctatg	95520
cgtgcttggc	gcaaaggctg	aggcaataaa	gctccgagac	tctgagtatg	agccagtgtg	95580
gagaaatagc	ggagtgaaca	caggattgcc	tgttcaattt	cctctcgcat	agtgattcat	95640
tccacattcc	aatttgggtg	actctcattt	gcaggggtgg	atagttcagt	tttctggccg	95700
tgaagctttt	gcaatttaat	ggttccccctg	agccatgctt	tccacacaca	caggagctat	95760
gatggtttta	atggcacatg	cctttgctct	tcatacttta	gagtccccca	ggcttggggc	95820
aagtgtcttt	cccaaccaga	attatgaact	acagtttagg	ttttggatac	acttaggttt	95880
tagctacaca	ttttaaagtg	tgttctaatt	aatatcttgt	ccttgggggg	taaatgaggg	95940
atggtagcat	aaacacttct	caagtataag	aattaaggga	aacttgaatt	taactgaaaa	96000
attgtctcgt	ggtccagttg	ggttgatctc	cagccacgtc	tttgtattcc	cagatgatgc	96060
attctctgat	ttgtaccaca	ttctgccatt	tgcaccatct	aatccaggca	gccactgaaa	96120
tgtcacgaaa	ggagtatttt	ctgcccttgt	attcctaaga	ctctttttca	atcttcagat	96180
tacaaatgaa	gccctcagta	acatccgcac	tgttgctgga	attggaaagg	agaggcgggt	96240
cattgaagca	cttgagactg	agctggagaa	gcccttcaag	acagccattc	agaaagccaa	96300
tatttacgga	ttctgctttg	cctttgccca	gtgcatcatg	tttattgcga	attctgcttc	96360
ctacagatat	ggaggttact	taatctccaa	tgaggggctc	catttcagct	atgtgttcag	96420
gtgaggaata	tctagccaag	gtgagaaaag	atcaacacac	aaggaaggaa	tagcctgggt	96480
ctgtcagtta	gctttttgct	gcttagcaaa	ccatcccaag	cttgggtgtc	tacaatagct	96540
gggattaatt	attttctcaag	attctgtggg	tcacaggggc	ggttcttctg	acctgggctg	96600
actcagtcag	gcttctgtgt	attcttctgt	ctccacatgg	cctgtctagc	agatgagctt	96660
cctttcttca	tattatggcc	tcagagttcc	aagtgccaca	aaagagggca	agcccactg	96720
tgcaagtact	tttcaagtct	ctccacgcaa	agaaactttc	taattttctg	tttggccaaa	96780
gaaagtcata	ccatcaagcc	caggtttaag	gaatagaaaa	aaatagaatc	cactttttga	96840
tgagaggagt	aaaaaagcca	tgttgcaaag	ggatgcatga	aagtgtgaat	taatatgatc	96900
gttgtttata	aacaatctgc	cacacatgtt	aatgctgaga	aaatctagag	gtcttggcta	96960
agatggttca	tagagaactg	ttttgtttga	actcctctct	tgcaaagagg	gctgactcct	97020
cccaactgac	tctccttagg	cagagacagc	atgggccata	cagggtgaagg	atgttccatt	97080
cgtatagcca	aagcctgctt	ttctaataag	attagctttt	agtccaattt	ctcacatttc	97140
cagaggtgaa	agcctaaggg	tgtcagggta	ctggggaacg	aggtacacat	gtatatgggc	97200
gagtcggggg	gtaagggtgg	agatggtctg	agaaagggtt	ggagggcatt	aggaaaagtg	97260
gtcctatagg	aatcggttct	tgggtttcct	tctctagcca	tgagtcccg	cttctcacct	97320
ggtatctctt	tcagcacttc	tctccactc	cactacacc	accagctag	gaaagtgtct	97380
ccttttcaaa	tctttgcata	tttaaagcta	ctagtctaaa	ttagaaaaca	caaaccattg	97440
gcttattttt	atttagttta	tattaaggtt	ttagaataat	tttagaataa	tttagaataa	97500
ttttagaata	atttagaata	tttttttgcc	aacatgtaaa	aatctggggc	tacaggctgg	97560
gtgcgggtgg	tcatgcctgt	aatctcagca	cctcaggccg	aggcgggtgg	atcacttgag	97620
gtcaggagtt	caagaccagc	ctggccaaca	tggcgaaacc	tcactcttac	aaaaaaatac	97680
aaaaattagc	cagggtatgg	gatgtgtgcc	tgtaatccca	gctactggg	aggctgaggc	97740
aggagaaagg	agaatcgctt	gaaccacagga	ggcagaggct	acagtgaagt	gagatcatgc	97800
cactacactc	cagcctgggt	gacagagtga	gactccatct	caaaaacaaa	caaaaagtgg	97860
aactacagaa	aacttccaat	ttctggcttc	acttttaaaa	ttggaacgtc	atcttccacc	97920
attttccatt	tcatttcaag	tgtttttcat	tcccttaggc	tttaaaactg	gctcccgggg	97980
atgttcagat	ttgcaattct	ggcctaaaac	aattcctgct	tatgaactga	gcagtgtgac	98040
acacaaagac	acatccctta	tccctatccc	catcccaggc	agaccctctg	tgcatgacag	98100
tgcagggtgag	cagctttggg	ggctactact	cacatcataa	tctctacagc	aacaaagtta	98160
tctctcatta	tatttatcat	tcattttatc	attcactctt	tcgttaatta	agtacatgtt	98220

gactatagtt	agaggctaag	acaagtagaa	ggagacaggc	aattgcatct	gtcttgctct	98280
ctgaagcata	aattatatac	atgcctgggtg	caaaaatgat	gcttatataca	tcaatcatta	98340
tcttttatat	acctattata	gattcaataa	ctgttagaat	tctagaaaaa	tcaactcaat	98400
ctgggtgatct	ttcaagcctg	ctttttcttt	taaaaaaatt	ttttcagaag	tctttttccc	98460
cctcaaacaa	ttttcttttc	tttttttttt	tttttgagac	ggagtcttgc	tctgtcaccc	98520
aggctggagt	gcagtggcgc	gatcttggct	cactgcaagc	tctgcctccc	aggttcatac	98580
cattctcctg	cctcagcctc	ccgagtagct	gggaccacag	gcgaccacca	ccacgcccag	98640
ctaatttttt	gtatttttag	tagagacggg	gtttcaccgt	gttagccagg	atggtctcga	98700
tcttctgacc	tcgtgatccg	cccgcctcgg	cctcccaagg	tgctgggatt	acaggagtga	98760
gccaccgcgc	ctggccaaca	attttcttaa	aggaagctat	tgtggtcaaa	taaaggtttg	98820
cggtctgag	ctctccccc	ttcatgcttg	ttcagtcctc	ttcttactcc	tttttcatag	98880
aacacagttt	gaaaactgcc	agtcctttaa	acaccaccct	ctccatttcc	agacaagtct	98940
gaagtgactt	gctcaaggat	atlttggtcct	ttcctggcag	aaccagggct	agatccccaa	99000
acttctgcct	tcaggtcctc	acaccaacca	cgcaccctg	ctctcttcc	gtgtgtctgt	99060
ctggttacag	ggtgatctct	gcagttgtac	tgagtgcac	agctcttga	agagccttct	99120
cttacacccc	aagttatgca	aaagctaaaa	tatcagctgc	acgtttttt	caactgctgg	99180
accgacaacc	cccaatcagt	gtatacaata	ctgcaggtga	aaaatgggta	agtgttgga	99240
tactatgcag	ccataaaaaa	ggatgagttc	atgtcctttg	cagggacagg	gatgaagctg	99300
gaaaccatca	ttctcagcaa	actaacacaa	gaacagaaaa	ccaaacacca	catgttctca	99360
ctcataagtg	ggagttgaac	aaacagaaca	catggacaca	gggtggggaa	catcacacac	99420
cggggcctgt	caggggatgg	tgtggggtag	gggagggata	gcattaggag	aaatacctaa	99480
tgtagatgac	aggttgatgg	gtgcagcaaa	ccaccatgac	acgtgtatac	ctatataaca	99540
agcctgcaca	ttctacacat	ctaccccaga	acttaaagtc	taataaaata	aataaataaa	99600
taaaatgtgt	aagtattgat	gaggggtaag	gttgtgcgta	tgtgtgtgca	ggacagccat	99660
tagggatggc	catacaatac	cacttggtct	ctaaattcct	gctgtatatg	ggttcattca	99720
tacatacttg	gagaagacaa	acagtagatt	tataaataca	aaggaataaa	gtaaattagc	99780
atcaaaaatt	attcctaaag	ctggcatttg	aacaagggtga	tgacattcag	tgaatgctaa	99840
attctgtgta	atataaaaata	cacttagttc	ccaaatgaat	gaagccagtt	gtcctctgag	99900
atctacctaa	ccactgtgtt	ttctattgat	gttctgatac	agaatgtaga	aaaatcactt	99960
cttctgtctc	aataacattg	atttaattca	tgttcatctt	gattcaagtt	ttagcttatg	100020
tggtatgtct	gaaaattaat	tcaatctcaa	caaaatatct	gttcttctaa	ttgatagata	100080
ggtatttgta	aatcttctct	acctattttt	gaaaatttta	gtatgttcca	gaaagcaaa	100140
caaacctaaa	cactagtaaa	gctaagctaa	attctgtaat	ctttctaaat	tggtaaaatt	100200
tctccttcag	ttcagtaaat	gtaaagtttc	tgtgtggtct	attaaatgtc	tatccatttc	100260
tagattttat	aagtttagagt	tttaagcaca	ccaaagtaca	atagaaagta	ttcacctttg	100320
cagtacagac	ctcaggtaac	tttctttcta	ggtcgtttta	agtgtaacat	tatttttagt	100380
ctttaggaga	acaaagctat	agggtttgga	cagttactgg	cttctgtgat	gtcatatctt	100440
ccagctattc	tcttctattc	agaatgtcag	gaatagatgg	caagaaaatc	cccttatgtt	100500
agactgggaa	tagggggagt	caaatgtctt	taatttcggt	gcccagcct	tcctttatac	100560
tacatctttc	agaacacaaa	atggaatgtc	cttttattaa	gttgcgtct	ttatactttg	100620
cactttggca	gcatggtttg	aaggtatctc	aagcagggat	tttaaactca	agatttaggt	100680
gtgttttcaa	tattctaggc	ttcagtaaga	gcatctctaa	ttttgatcct	ccatccaca	100740
ggacaacttc	caggggaaga	ttgattttgt	tgattgtaaa	tttacatata	cttctcgacc	100800
tgactcgcaa	gttctgaatg	gtctctcagt	gtcgattagt	ccagggcaga	cactggcggt	100860
tgttgggagc	agtggatgtg	gcaaaagcac	tagcattcag	ctgttggaac	gtttctatga	100920
tcctgatcaa	gggaaggtgg	taagccacgc	aacctttttg	agaattttgc	cttctgcaga	100980
gtattttcaa	cccctaaaag	tgggcttcaa	gtttttgctt	tgccagactc	actttaaaat	101040
gcttgccata	ggcacttacc	ccatgcata	tttccagtc	cagtcatttg	ctgcttcacc	101100
tgattctacc	tcacaatttc	taatgtcaga	ttttcccgag	ttccagatgg	cctgctgacc	101160
agttaggcaa	agaaaactgg	gcacactgca	aagctggaga	tgagtgtatt	taatagaagc	101220
actcacttac	ccgtaaatgg	agcagaaagt	gcagactaat	caggaaacta	atgaccagga	101280
atggaaaaag	tagagtgata	agggaaataa	tgataaatga	gcaagaaagg	agagttagca	101340
tgaaaagatc	taagacaatc	cttggttcaag	aagctgaaat	ctaaataacg	caaggaaactc	101400
agattgagag	ccatgtacca	taaatcttta	gcaaggatat	ttgaaatttt	ggtgaatagc	101460
tttggtattt	atttttcata	acatttcttt	ctcttttctg	tccttttttt	ctttctttta	101520
aagtaataata	tgcagaagg	cacaaaatca	aataataaat	atttataata	aaaagccacc	101580
cccctgcttt	atgcttacac	tcccactcca	catttctctg	ctcaaaggca	actatttttg	101640
accacttgat	gttttttgat	ctcccaatgg	tgacttttat	gtcttttaaa	aatatgctca	101700
tgctatttca	tgatttaaca	aatttagact	ctctgtgatt	tattctcaag	agataaaaaat	101760
ctacttactc	tcaccactcc	ctccttttgc	ctacctcctc	ccaatatagt	tatatcattt	101820
tttaggcctt	ctatttataa	atttgtaaac	ttctgatctg	cttccggtgc	tcttccacca	101880

cctgtagata	gttcctcttg	aattctcact	ttctaaaaga	aaaatgtag	caatcctacc	101940
tttattttca	cctcttactc	ttttcacctc	ttactttctt	tacctcttaa	gttctaactg	102000
cactttttatc	aagaattcag	agcacattct	gtttataaca	ttatctttcc	tgccttcact	102060
ctaagttgat	tctaaaagtt	gaaaatcaat	tgacagcttt	tttaatgatt	atgtaaaatat	102120
tgttcacatcct	tcagtcaaat	agtgagttac	atttacatta	tatttttttg	attgtttttc	102180
tgaaagggtt	ctttttttct	tgcatctctt	gtcttcatga	aaacctttgt	gttcttccaa	102240
tgtctctgtc	aggccatctc	ttccctcatt	tctgtcactc	gcaacgtttg	cctgttgaac	102300
agtcacatc	ctgtgagttc	cctgtgatat	ttccttggat	tagatccatt	atttcgtagt	102360
tcccatacat	tcctttttct	agtttttacc	cccttttgtt	ggagctcatc	caaaagcaaa	102420
tttctaagaa	atagttcata	gatatgggtc	tgaaaatgtt	ttgttttgct	tcatacttga	102480
ttaattgttt	aatccctata	ttttgaaagt	ggcctttctg	acttccctga	atagtataat	102540
ctttaatgta	atatactatt	atgaagagta	taacattatg	aagagaaatg	ctaagaaaaat	102600
tttgaaaaag	gcaactaaag	atttccttgt	ataaagcaaa	gcaaggaaac	aagcaaacag	102660
aaattgacag	aatccaggaa	gttataaaaa	taaggactaa	gtattgattg	cctataaatt	102720
ataatccctt	ctgtttattaa	gttgagggtat	aaagattgta	aatttgtttg	aaagtatttg	102780
gtaaccaata	aacctagaaa	gcccattgtg	accagaggtg	taattctgat	aagtcagagg	102840
gttcaatttt	ccaaaatgtc	acttctggca	tgccctgcagc	caacatagat	tgtgaactat	102900
gcaagggtaca	ggaaactgaa	tccctcatat	ttacttttcc	aacattaaca	tgtacattaa	102960
gtatatttct	ctgaatatgc	ccagtgaatg	ttctgggtcac	aggtcgaaag	caaggccaat	103020
aaggaaatca	ttatgacttc	ttgcatttca	taggcacagt	atattttgtt	acaacatcgt	103080
aaaacatttc	tacaaacatt	ttaagcagaa	aacctaccac	tttttatgtt	tttttttcaa	103140
agtcctcttt	gctcttaatc	taccaaatgt	aggcgttcaa	tattttcaac	atttatttgg	103200
atacctatga	tgtgcctgtt	actgcatgag	tccctgtggg	agagtctaag	gaccatgaag	103260
catgtcttct	gccttctagg	agcttacaat	gtagcacatt	tagaagaatg	agcaaacagc	103320
ctgagtgttt	aattattaaa	ttgtgttttg	cagacttaag	tgctatggaa	aatgagtaga	103380
gcaagataag	ccagggtcaa	ttgttattga	gaaatgcttt	atattttttc	taatagtgtt	103440
tgctttttcc	attacttaga	aattatctta	aatataatct	gttcatacca	tttatcacia	103500
tttttttctg	aaataatagg	gccaaatact	ttatagtagc	acgttaggca	tctgtgcctt	103560
taatatctta	ggactcttta	gtgaatcagc	tcatgtggta	gatattcaag	tacctggact	103620
taactgccta	actagactgt	gagttcctag	gaaacagaga	ttatattttc	tttacgtagc	103680
agacatagat	ggcttaggat	ggtgctttgt	ggcagggtgat	tcaaataat	gtttgttgat	103740
tgactaagtg	aataaatgta	ttcctttttt	acttgggttt	attatctcag	ttatgcagag	103800
aatggtgtta	gtaaaatcaa	gaaaacaggt	ttgaccttta	tattgcccac	aagcttcaca	103860
gagaaaaatc	ctttccataa	ctcatgagtc	tcaaaataga	gcaaccctgt	atattttag	103920
agagtgtgct	gcaccaaagt	aaggggacgt	tgtttcttac	ctgaataacct	gagcgtcttt	103980
ctcgtttgcc	ccacctgtag	agccagagtt	caggaaataa	ataggaccat	agtctgatta	104040
gtgttaacat	ggatgccact	cctgatagac	attacatcca	gagggtcaaa	gcaacataat	104100
ttattccata	attttagcct	tgggattgtt	agtctgttaa	gcaaaccaaa	tgtcctgcat	104160
aacaccta	gctagaatat	gaactttcct	cactgctgga	attctaaaaa	cctaattgacc	104220
tgtcatctcc	tctattggca	gatgatagat	ggtcatgaca	gcaaaaaagt	aaatgtccag	104280
ttcctccgct	caaacatttg	aattgtttcc	caggaaccag	tggtgtttgc	ctgtagcata	104340
atggacaata	tcaagtattg	agacaacacc	aaagaaattc	ccatggaaag	agtcatagca	104400
gctgcaaaac	aggctcagct	gcatgatttt	gtcatgtcac	tcccagaggt	gagtacgaag	104460
tcagagccat	tccctatgag	agacaaggat	ggggagaagt	agaatgacca	gagtgtacag	104520
gttgagcatc	cctaactctga	aaatcccaaa	tccaaaatgt	tccaaaattc	aaaaattttt	104580
gaatgccaac	atgattccac	agggtgaaaa	tttcacactt	gacctcatgt	gatgggtcac	104640
agtcaaaatg	cagtcaaaac	tttgtttcat	gtacaaaatt	attaaaaata	ttataggaat	104700
ttacttctgg	gctatgtgta	taaagtagat	aagaaacagg	aattttgtgg	ttagacttga	104760
gtcctatccc	cagggtatct	cattatatgc	agataattcca	aaatctgaaa	aaatccagaa	104820
tctgaaacgt	ttctgggtccc	aagcatttct	gataagaaat	attcaatctg	tattatgatt	104880
gtggctctag	aagggtcaaa	gatatgcaat	ttatttcaca	gtgcccctgg	actgtccttag	104940
ttttttaagc	aaaagaaata	tccttcatca	acatactctt	taatttttga	aagtattgta	105000
ttgcccattg	caatggatgc	tatttttgtt	gaattttttt	gtacattgag	cttttagttta	105060
gcatagtggg	gaaacacctg	agatttggag	ctgacctggg	cttgcatcca	agcttttgcca	105120
cttagtagct	tcatagcttt	gggacaatta	tcctttctga	gattgtctat	ttcatctgca	105180
aaatgcaaga	aaataacgtt	aaaatgaaga	aaacacactt	aatagccaca	caatgaaagc	105240
ggccactggg	attactgcca	tcattcattat	ttcattactt	ggcaatgtgt	accgtgggtg	105300
gtgggtaagt	tacacctgcc	ttactgtctc	ttactttgcc	aaacccaagt	ccagatttctg	105360
cgcaatattg	actctgcatt	tttccatcca	ccaaaagtcc	ctcttagttt	tgatcacaag	105420
aaaaattaca	acatggaaac	caaattgtag	ggccaaaattt	tacctttaac	cttctctact	105480
tactttttta	aaatatccct	gggaaaaattg	tttttcttta	taagtgatta	tgtttataaa	105540

```

ttttgtgggt ttgtggaagg ctttttgttt gctcttttca caaagtctcc taagtttttag 105600
gctcttggcc cagttctttac ctgttagccc aatctataag cacatggaaa ttactatttg 105660
ctgaatccag agatcaaaaag caaagattgt gtgtctcctg gaagattcat ttatcccaca 105720
aacccttatt gaatagctac tcatgttggg caaggcactg tcatggagct ggtttactgc 105780
attgtcctca tacagacttg cccgtggcac ccttctctga gcactttgtc tccacaaaaga 105840
caaagcaggt tttcatgggt ctacactggc ttaaaggagc attcctcagg aggcaaggga 105900
agcagggaaa ggaaacagct cgtgttgttg aaggcaagga agagaagtag tcaaggcaag 105960
gacttagagg agagcaagat tcaactttcat ctggattcag atttcacttt cactgcttgt 106020
tacttgcct cgcaccattt tcttacctcc ctgtgcctaa gttttgtaat ctaaaaaata 106080
gtgtgggtat ggtttctgtg aatattaaat gataccctag ctagaatagt tagcacaata 106140
cctctatggg aaacactcta tgaatgttaa ctaattttta tgtagccatg ccaggcatga 106200
gtgatttttt cttcctaatt ttctctaaaa ctcaacaata atatgtgaag taagtgttaa 106260
tactgcacct cagatgccta gccagctcaa aaaaatttaa ataatttgtt catgaacaca 106320
agctagtaag cagcagagtg gagcttctaa ccaaagcctg tgttccagaa tgctgcctcc 106380
ctaatacagc aatggaccag aagatctcgc aaaagacatt tccattcttg ggattagtcc 106440
atattggaag gatttttcca gataagaatc tagaatcaga gagtctcaaa tcaaggagga 106500
tctcatatat gggctcttat gtggacacag ggagaaggag attgaaaata taaacctaaa 106560
agaaatgcag aaatgaggaa taatgtcccc ttgcttccca catcaaagt cacaaattcc 106620
atatttttct tatattccta agtggatttg acatcctcca tcctatagga ggactcactc 106680
actgttccct agttcaacaa acaataaatt taaattacag aggagacctt gacatgagtt 106740
cagtacagca caggagcaat aactgtttct atttctcaaa cttatcatac tttttttcag 106800
aaatatgaaa ctaacgttgg gtcccagggg tctcaactct cttaggggga gaaacaacgc 106860
attgctattg ctcgggccat tgtacgagat cctaaaatct tgctactaga tgaagccact 106920
tctgccttag acacagaaaag tgaagggta agtgttgaat ttctaaagtc ttagatcatt 106980
acaaataagt cttttgctgt aaaatttgtc cttaataaaa tggcactatt ttcaattttc 107040
tgattcgtaa acagtagaaa ttggcaatac tttgtggaac caaaagacaa ttatctagag 107100
caagtgattt aatataagat tgcttcaaaa aaaatatatt accttttaaaa taagaattgt 107160
ttttaagatt ctttaggcta agtgacattt ttttccaaag gcaaataatc acctttcttg 107220
aataaagtaa aataatctag attatctgtt atattttata gttctaaagt tatgtgacag 107280
agaaggtagg ccacatgcaa cacaaagaaa gaggtgatat ctgatgtgtg gtttgcata 107340
aagaagatgc aattgagcaa aacacaatta tgaaatttaa aatgtataat taatgccata 107400
acaatcgga ttccattttg gagagagcta aaatgtcttc aatgaagagc agtatcagga 107460
atggccactt aactgctacc ctccgttgtt ttcttcattt catttcagga aactagacca 107520
tcaaataattg taaaattatg tagggacttc atagtttgc tcttctctgc tccactgaaa 107580
tttctcagcc agtgcactgc cattgaaatc actgatgcat tgcattcagg gaatacttgc 107640
ttaatcctct cttatgttga gcctttgggt ttgcccgtcaa gtataggatt gttattcagg 107700
tcgtgttaac tgaactctca tgatggtggg ctggggagca atcatgcatc tttgcatcaa 107760
ctttccatct tctcttttga gacggtgcag gtgtctctag acaaagccag agagggtcgg 107820
acctgcattg tcattgccc aacgttgtcc accatccaga acgcgatat cattgctgtc 107880
atggcacagg ggggtgtgat tgaaggggg acccatgaag aactgatggc ccaaaaagga 107940
gctactaca aactagtac cactggatcc cccatcagtt gacccaatgc agaattctca 108000
gacacacatg acgcaccagt tacaggggtt gtttttaaag aaaaaaaca tcccagcagg 108060
agggattgct gggattgttt tttctttaaa gaagaatgtt aatattttac ttttacagtc 108120
attttcttac atcggaatcc aagctaattt ctaatggcct tcataataa ttctgcttta 108180
gatgtgtata cagaaaatga aagaaactag ggtccatatg agggaaaacc caatgtcaag 108240
tggcagctca gccaccactc agtgcttctc tgtgcaggag ccagtcctga ttaatatgtg 108300
ggaattagtg agacatcagg gagtaagtga cactttgaac tcctcaaggg cagagaactg 108360
tctttcattt ttgaacctc ggtgtacaca gaggcgggtc tataacaggc aatcaacaaa 108420
cgtttcttga gctagaccaa ggtcagattt gaaaagaaca gaaggactga agaccagctg 108480
tgtttcttaa cttaaattgt ctttcaagtg aaaccagctt cttcatctc taaggctaag 108540
gatagggaaa ggggtgatgc tctcaggctg agggaggcag aaagggaag tattagcatg 108600
agctttccag ttagggctgt tgatttatgc tttaacttca gagtgagtgt aggggtggtg 108660
atgctacat tactgtgagg acctacc 108687

```

<210> 73

<211> 77349

<212> DNA

<213> Homo sapiens

<400> 73

```

agcataataa attctttaat gatatagtat actagaaggt gataaatgct gtggaaaaga 60
aatcaaagt aggataagag gaactgagag tcctgagggg acaagatcca acttctaatt 120
gagaagagat ttttaggagg tgagagtgtc ctccatgtca gtattttggg gaggataatt 180
ttggacaggg ggaacaacta gtacaaacac cctgaggtgg agtgctgcct ctcttgtctg 240
agtaatatcc aagaggccag tgtggctgga gtggagttag gcaaagacaa aataaataaa 300
aatgagatca gagaggtcac ggagagggca cagcattgta ggccatgact gagtgaattg 360
ggggctacca cagaaatgtg aagagaagag tgatgtgatg tgactcacat ttcaaaagaa 420
tcatccaggc catgcttttg acaatggaca aaggcggag aggaggaaa gacagaggca 480
gagagacaat taacaagcta ttatagaaaa tcaggtggag atgatatgtg cttgcatgat 540
ggtggtagag ctggaggtgc agggcaaagg tcagattctg aatataattt gaaagtaaag 600
gcaacaagat ttcttgacag attgattatg gtgtgtcaaa gaaagagagg aatgcaggat 660
gattccagtg tttttgttga caactataag tctggagctg ccaactggat gcagaagttc 720
actggagggc ccagcctggg gaaaggatca ggagcaggtt aggcattgta agcttgagat 780
gtctgttaaa catccagata ggaatgtcaa agatgcactt gtgtttaaga gtcaggaatg 840
caagagggaa ttttaggcta gaaacaaaaa gttagaaatt attcgataca gatggtat 900
aaagctgtgt gactgactga catgacagaa gtggcgagaa tagactgaga agtccaagga 960
atgagccttg gaccactcca gtgttaggta agtagttgaa aaaaagagag agagagaagg 1020
catcaaagga gactgaggaa gagtgatcag gaaagcatag gaaaatccga gaaacatatg 1080
gtgtcctgga atctatatga aaaagatata ttcagaaaga cagagtgata aatctgtcaa 1140
attattgaat ttgtcaggta aaataagaac agagaattga tctttggact tagcaaagca 1200
gagattatca gtgactttta taaaaatagt ttcggtagtg tggaaagatc aaacttctgt 1260
ttagagtggg tttagagag aacaacagga attgaagaaa gtaataaact ttgccacca 1320
gttagctcc aaaggaaaag agggaaatat gatggtagct ggcaggggaa gtgtgggtcaa 1380
gagaggtttt ttgtttgttt ttcaagatgg aagaaataac agtatgtatg taagctcaca 1440
ggagggatcc agcaggcatg gggaaattga tgatatagga cagaaaggga agaattggctc 1500
cttgtgaaag tgaaagggga tgggatctac aggatgaaca tgcaacaaa gactggctgc 1560
aaagagaggg atgaatagtt catttacaga aacagcaaag gcagagtgtt ggtacagatg 1620
ctggtaaagt gaaaaatatc atggtaggag gtaatttag cagaatgtga agatgtaaaa gaacagaatt 1740
ttcatcagtg aaataagcac aataattatt agaaaagcag gtgagtgaat gaactaagaa 1800
tgagaaaaca gacgatatga aataattatt aagaaactgt catctcctta tgtgctaattg 1860
aattatcaaa ttctctttta ttagagactg aactacacaa ttccaactgc 1920
agttaataaa tgtcctccag tcaccacaag cttcttttca aactacacaa ttccaactgc 1920
ttccgtctca gagtatcttg aaataatgat ctgaccgctt gttagaccag tgaagggaag 1980
gaatttgggt tgatttaaga agagaatcct catggtcatg gtagactgat atggagagaa 2040
aacattttga ggaaaaatac tcaactaat tcatctctac tccagcatgc agtttcaagt 2100
caagttccac cttagctcca ggtggcaggg agagcaggat gcagaggcac agcacaagta 2160
aggggtgagt gccgaagctg ctggctcctg ttccagtctt tcttctcttg cctcgctga 2220
acttttacta taataatagt caccatttat taggtgtctc ctacgtgcag gacactttac 2280
acacagtatc cctaatecta ataacaccct tattttatag atccaatgac tgagtcaaga 2340
attacataac ctggccagac agctggtaca tgggaaaggt gagattcaca ccagggtcca 2400
cccagcatct ctacttatac catgctctgc tttaaggttc tctgagaact cagacaagcc 2460
ttgggctaac aattgtgtta acaggacata gcaggtgcaa ggaccactg gtcactcctgc 2520
tacctgatca gaaggaagga aagttgtatt tgttgctcac ctactatgtt ttaggcatag 2580
tactaggtag ttttacctag tacttaattc cttatctc aactcattta ttectcgcaa 2640
taacctgata agggcaatgt ttttatctc attttacata taaggaaaca ggcctagaga 2700
aatgagcaca gtgtccaaag tcacatagtt aataagatgt gaagctctga gtttgaaagt 2760
ctccggtttc aaagccatga aacttatggc tccccgtttt agacacttcc ttttggaag 2820
agtgtggagg aattaatcag aaagaagaaa gtcataacta aatagggtgt agagcagag 2880
acaattcaat acagacagaa gtcttagatg agagcagtga gccagggcac tggactggga 2940
ctcaggaggc ttcccttaga ctctggttcc accgatgcag cctcaggcag gacttcacct 3000
ctctgggcat ccgtttcttc atatgttaaa catacgggg ttttaattaga tgatcgctga 3060
agaccctct agccctaaaa ctctgtgtct cttaagtgt aagagggcac caacagcgtt 3120
cctcctcccc aaggagcata atgtgatgg tctgcccgc cctggctgac tctcgccgtc 3180
cttgagata attgggttca gtgccacct gaccagaact ggggatgcgg aagcaagagg 3240
cgagtctatt gctctctctc ggtcctgggc cgccctgtga ttgttgggcg tccggaaact 3300
gtctccccta tgggtttaaa aacaaaactg agcgcccatg ggggtgtgaca gtcactctga 3360
ggggcttggg tggccatca ggcgaggctt tctcggcacc cgaggctcca gcctgatctc 3420
ggtcttatcc tgcgaccggg ctggttctgg cgggtcgcca ggggtgggcg cggccccagc 3480
cgggcgcccc ggcggaaga gcggcaggct gcgcccctg cccgcgcta gcctggggag 3540
agagctgggc gggcggcggg agctgctctc gcgggcccgc gccctcgccc tggctgcaac 3600

```

ggtaggcgtt	tcccggggccg	gacgcgcgtg	ggggggcggg	gcgggggcgg	gggcgaggcc	3660
gcggcgagca	aagtccaggc	ccctctgctg	cagcgccccg	gcgtccagag	gccctgccag	3720
acacgcgcga	ggttcgaggt	gagagaggtc	cgggcgcgtc	tggcctcgaa	gggagacccg	3780
ggacgtgggg	cgcgggggcg	gagtgccgg	acctccaccc	agtcccccg	ggccccgcga	3840
ctcgtgcgcc	gggcccgcgg	agaggggtga	cttggttctg	aggctgtggt	ttctcctcag	3900
gctgagatgg	atcttgaggc	ggcaaagaac	ggaacagcct	ggcgccccac	gagcgcgagg	3960
ggcgactttg	aactgggcat	cagcaggtac	atccccagca	gccactggct	tttccgttac	4020
acgccaatca	gcaggactaa	gttcacccct	ggaaagaagt	tgtaaaaaatc	ggttgatgcc	4080
tttgaagacc	tttgttttgg	aggcttcttt	gaagggtctt	gcatccgggt	ctgaccttgg	4140
agcaaacgtg	ttgtgtggcc	tcaaagaatg	tcactgaggc	tccttttggg	acagattcag	4200
gaagaaaagg	ctgtcttgaa	aagtgtctcc	ttccctttgt	gcagggggga	ttcaatgaat	4260
atctgcattg	tataacattc	attgtattac	gtaactcttg	aaacttttac	aaatgacttt	4320
catatacatc	atctgattgt	tcagacttaa	aggggtgtcag	acatctgctg	ttgatggctg	4380
tgctttttga	acaagggcag	tgaagcaaaa	actccctccc	ctcctgcccc	tccccgttta	4440
tgtctcttcc	tccttgtctt	acccctcccc	ctcctctcat	cgccaggctt	atthgtatth	4500
ctcctttctg	ggaggatagg	tggggagggg	gaacttctgt	acatccgaat	cagttttgtt	4560
caagtggtag	ggggaagcag	cgcttccctt	gccttcatgt	ctttctcggt	tccccgggcc	4620
cttgtttaac	tcacttcaca	ggctttatga	gcggggcaga	agttcccagt	caatggcggtg	4680
tgtctttggt	tcctctttca	ctgtgggaat	agtgaatcat	tttcgccttt	agcctgaaat	4740
agtttatgag	gctattacgg	tctctgagtt	cataccaggc	taccagaaa	aaattgacct	4800
gtgtcaagtg	atcacccaga	gggacaaaat	tatcagtctc	tgtagtttgt	cctcaagctg	4860
ctaggggctt	gattagctaa	ctgaaaacat	gcctacctga	tgcttaaaact	gaagcattat	4920
tttagcctgt	taatgtgggt	gtgcagtaac	cttgctgtat	ttcttctaag	caccattgta	4980
ttttttcata	gaaaatttag	ttttgccatg	tagaattgaa	aaagtgatag	atggtgttac	5040
ttccaatgga	agtacttaca	cacgcaatag	aaaaatatgg	ttttcatcag	ctggctgttt	5100
aggcagggat	tgactgtgag	tctattaata	gatggcattt	tcatgaagaa	gtctatttat	5160
gtattgcact	ggcttaacat	ttgatgcgtg	tgcaaaaggag	ctattcctac	aaaagggtga	5220
gtaacacttc	agaaccagg	aaagtccctc	gaagggaagc	ccacagcttc	tgctggaaa	5280
aagaaagcag	ctcaaaagag	aaatacagaa	agttaaacaat	aagttaagac	cacatgatta	5340
tgaaatcaaa	tgtagtgaaa	ctaattttta	taaaagcaga	ccaaagataa	tatatttaaa	5400
ggaagttaag	cctgcttcaa	tcaaattagt	tatatctctg	ttctaattat	gttgctattg	5460
cccatggcac	attcttttga	acatatttag	tggcagatgt	ttgtccagtg	atthtagtca	5520
atactttaca	taatttggaa	tcatcttatg	agtaaaactt	tatcatttac	ctggataaat	5580
gcatcatatt	tatgtaaaaa	tcatcatata	tataataatc	atcatacaca	cacacacaca	5640
cacactccct	catagagttt	atattatagt	acggaggaca	gacataaata	atgtacatac	5700
taaataagta	aaccacagcc	aatgttagaa	ggtaattaac	gccatggaaa	aaagcattaa	5760
tccaggttaa	ggggatcagg	agtacaaaag	gggagtactt	tgtaatttta	agtaggggtg	5820
ttagggtaga	tcttatttta	aaggtaatat	ttgagcaaag	acttgaaaga	aatgagagga	5880
gacagctgtg	tgggtatcta	aggggagagc	attccccgaa	aaggtaactg	gcaatgcaaa	5940
gacctgagt	caggtagatg	tttggtagt	tcatggaaca	gcagagagtc	caggctggtt	6000
ggagcagagt	aagcaggttt	gggagtaggg	atgtggtcag	agaggaaata	agcaaacaga	6060
tcgtgtagga	cctcagaggt	taatgcaagg	atthtggctt	ttattgtaag	aaaaaggaaa	6120
gccattgtag	gtttttgagc	aaagaagtga	tgtatggctt	ggcattttga	aataattact	6180
ctgactgcta	gttgaagata	gactgaagcg	gcatagggtg	aagtggagag	actaggcagg	6240
aggctgccct	actgggtgaca	gcaatgaaac	tggtgataag	tggttaaatt	ctagatgtac	6300
tttgaatgta	tcaccaacaa	gattgcctga	caccactctc	cacaatcctt	cagaagaata	6360
gacattccta	atthtaaatc	atgatttttt	ttaatttttag	aaaacaaata	acttaattga	6420
cttagcgaca	ctgttagcat	acttatcttt	cctgtgtatg	tgagctctgt	aaggcaggcg	6480
accatttctt	atgtatccat	gtatctttgt	agtacctctg	acagttactt	ttgtgcttgc	6540
tatgtttggt	gaactgaata	atthtgacat	tttgtgaaca	tcactcttat	atthgaaaat	6600
ataatagttg	aatattgtaa	ctaaacatat	ttatgttcaa	ttgattgtaa	aacattttgt	6660
aacagtttta	aattgaagca	attctattht	ttacagcaaa	caaaaaagga	aaaaaacgaa	6720
gacagtgaat	atgattggag	tattaacatt	ggtaagctgt	gaaatgttaa	atgtgaataa	6780
tcctaccttt	tattcaaat	tgaggtagtg	aatcaattac	ctthaaagca	aatactthaa	6840
gattgtctag	ctaggcgagc	tgactcatac	ttgtaatccc	agcactttgg	gagactgagg	6900
tgggagggtt	gcttgagcac	aagagtttga	gaccagcctg	gacaacatag	tgagatctca	6960
tctctacaaa	ataataaaaa	taaaaaatctt	aaaaaatagc	atatgtcatg	gcatgaacct	7020
gtagtccag	ctacttggga	ggctgaggca	ggagggtctt	aggagtctga	ggctgcagtg	7080
agttatgatc	acaccactgc	actccagcct	gggtggcaga	gcaagacctt	gtctcaaaaa	7140
caacgacaac	aaaaaactgt	ctgcagacag	caataaattg	tccttgctgc	acctgtgctg	7200
tataagtttg	gcttattata	gtcaatgacc	cacattctta	agatggatga	ttthttaaaa	7260

agtagagaca	ggctggcgat	gacaccggac	agagctaact	ggtgtgcaag	gaaagtgaag	7320
atgggaattg	tgtagtagc	acaatgcaaa	ctcaacaatt	tcaagaaaat	gcatttctgc	7380
atttgcttca	cagaccccca	ccccaaattt	agcttaaaat	aagcttgcac	ttcaagaaag	7440
taattgttaa	gtacataaat	tttaatttaa	ggaatctaca	ttcacatttg	gtttccaaaa	7500
aattggctaa	atagggggta	actattagga	attctgatta	tgcttaaaac	agttttcggg	7560
gcttttctgt	tggtacaaga	caagacaata	tttttggaag	aagtctcctc	atctgggttt	7620
catttgaaat	atgtcttaca	gaggcagctc	aagaaagcat	ttgcccattt	ttggtaaaata	7680
tgacgtgttt	caaactgtga	cagccattat	ttggtagcaa	agaagttaga	attaagtgtc	7740
atgtcagctg	aaatccaact	tagtaattaa	atggataaaa	agacaccaaa	acatccacac	7800
tctcaaacac	tgctgcatac	ttctcatgta	acaaaaagcc	cctattcatt	gtcttctctc	7860
ctcttttttt	atttgtttaa	aaagcctcag	taagggcaat	ttaaaaaaa	attagcactt	7920
tgagagaataa	attgtttatc	aaatgaaagc	tggttttatt	tattttttta	gaagtttttt	7980
tttctttatt	tttttaaatc	tggttaaat	atactttaag	ttctagggtg	catgtgcata	8040
acgtgcaggt	ttgttacata	tgtatacatg	tgccatgttg	gtgtgctgca	cccattaaact	8100
tgtcattttac	attaggtata	tctcctaagt	ctatccctcc	cccatccccc	caccccacaa	8160
taggccccgg	tgtgtgatgt	tccccttctc	gtgtccaagt	gttctcattg	ttcagttccc	8220
acctgtgagt	gagaacatga	gggtgttggg	tttttgcct	tgcgatagtt	tgctgaggat	8280
ggtttccagc	ttcatccatg	tccctacaaa	ggacatgaac	tcatcatttt	ttatggctgc	8340
atagtattcc	atgggtgtata	tgtgccacat	tttcttaatc	cagtctatca	ttgttggaca	8400
tttgggttgg	ttccaagtct	ttgctattgt	gaatagtgt	gcaataaaca	tacttgtgca	8460
tgtgtctgta	tagcagcatg	atttatattc	ctttgggtat	atacctagta	atgggatggc	8520
tgggtcaaat	gatatttcta	gttctagatc	cttgagggaat	caccacactg	tcttccacaa	8580
tgggtgaaact	agtttacagt	cccaccaata	gtgtaaaagt	gttcttattt	ctccacatcc	8640
tctccagcac	ctgttgtttc	ctgacttttt	aatgattgcc	attctaactg	gtgtgagatg	8700
gtatctcatt	gtggttttga	tttgcatctc	tctgatggcc	agtgatcatg	agcatttttt	8760
catgtgtcta	ttggctgcat	aaatgtcttc	ttttgaggag	tgtctgttca	tatccttcac	8820
ccacttggtg	gtgggggtgt	tttttcttgg	ttaaatttgt	tgagttcttt	gtagattctg	8880
gatactagcc	ctttgtcaga	tgagtagatt	gcaaaaattt	tctcccatct	tgtaggttgc	8940
cagttcactc	taatgatagt	ttcttttgc	gtgcagaagc	tcttttagtt	aattagatcc	9000
catttttctg	aattttggct	tttgttgcct	ttgcttttgg	tggttttagac	atgaactcct	9060
tgaccatgcc	tatgtcctga	atggtaattg	ctaggttttc	ttctagggtt	tttatgggtt	9120
taggtctaac	atgtaagtct	ttaatccatc	ttgaattaat	gtttgtataa	gggtgaagga	9180
agggatccag	tttcagcttt	ctacatatgg	ctagccagtt	ttcccagcac	catttgttaa	9240
atagggaatc	cttttcccat	ttcttgtttt	tgtcaggttt	gtcaaagatc	agatagttgt	9300
agatgtatgg	tattattttc	gagggctctg	ttctgttcca	ttgggtctata	tctctgtttt	9360
ggtaccagta	ccatgctgtt	ttgggtactg	tagccttgta	gtatagtttg	aagtcaggta	9420
gcatgatgcc	tccagctttg	ttcttttagc	ttaggattga	cttgccaatg	caggctcttt	9480
tttgggtcca	tattaacttt	aaagtagttt	tttccaattc	tatgaagaaa	gtcattggta	9540
gcttgatggg	gatggcattg	aatctataaa	ttaccttggg	cagtatggcc	attttcaaga	9600
tattgattct	tcttatccat	gagcatggaa	tgttcttcca	tttgtttgtg	tctcttttta	9660
tttctgttgg	cagtgggttg	tagttctcct	tgaagaggtc	cttcacatcc	cttctaagtt	9720
ggattcctag	gtattttatt	ctctttgaag	caattgtgaa	tggtgagttc	ctcatgattt	9780
ggctctctgt	ctgttattga	tgtataagaa	tgcttgtgat	ttttgcacat	tgatttttga	9840
tcttgagact	ttgtgaagt	tgcttatcag	cttaaggagg	ctttgggctg	agacaatggg	9900
gttttctaga	tatacagtca	tgtcatctgc	aaacaggggc	agttttactt	cctcttttcc	9960
taattgaata	ccctttcttt	ctttcttctg	cctgattgcc	ctggccagaa	cttccaacac	10020
tatgttgaat	aggagtgggt	agagagggca	tctgtcttg	tgccaatttt	caaaggggaat	10080
gcttccagtt	tttccattc	agtatgat	tggtatggg	tttgtcataa	atagctctta	10140
ttatgttttag	atacctccca	tcaataccta	atttattgag	agtttttagc	atgaatggct	10200
gttgaatttt	gtcaaaggcc	ttttctgcat	ctattgagat	aataatgtgg	tttttttctt	10260
tggttctgtt	tatatgctgt	attacgttta	ttgatttgtg	tatgttgaac	cagccttgca	10320
tcccaggggt	gaagcccact	tgatcatggg	ggataagctt	tttgatgtgc	tgctggattc	10380
ggtttgccag	tatttttatt	tatttttatt	tatttttatt	tatttttatt	attttttttt	10440
tgagacggag	ttgcgctgtt	tgcgccaggc	cggactgtag	tggtgctatc	tggtgctact	10500
gcaagctgcg	cctcccgggt	tcacgccatt	ctcctgcctc	agcctctcga	gtagctgaga	10560
ctacaggtcc	ccaccaccac	gcctggctag	tttttgtatt	tttagtagag	acagggtttc	10620
accatgttag	ccaggatggg	cttgatctct	tgacctgtg	atccgcccgc	ctcagcctcc	10680
caaagtgtcg	cgattatagg	cgtgagccac	cgcgcccacg	gtttgccagt	attttattga	10740
ggatttttgc	attgatgttc	gtcagggata	ttggtctaaa	attctctttt	tttgttgtga	10800
ctctgccagg	ctttgggtatc	aggatgatgc	tggcctcata	aaatgagtta	gggaggattc	10860
cctctttttc	tattgattgg	aatagtttca	gaaggaatgg	taccagttcc	tccttgtacc	10920

tctggtagaa	ttcggctgtg	attctgtctg	gtcctggact	ttttttgggt	ggtaagctat	10980
taatttcaga	gcccgttatt	ggctctattca	gagattcaac	ttcttcctgg	tttagtcttg	11040
ggaggggtgta	tgtgttgagg	aatttatcca	tttcttctag	attttctagt	ttatttatgt	11100
aggggtgttt	acagtattct	ctgatggtag	tttgtatttc	tgtgatataca	gtgggtgatat	11160
cccctttatc	attttttatt	gcgtctattt	gattcttctc	tcttttcttc	tttattgggtc	11220
ttgctagcag	tcaatcaatt	ttgttgatct	tttcaaaaaa	ccagctcctg	gattcattga	11280
ctttttgaag	ggttttttat	gtctctatct	ccttcagttc	tgctctgac	ttagtatttt	11340
cttgccctct	gctagctttt	gaatgtgttt	gctcatgctt	ctctagttct	tttaattgtg	11400
atgttagggg	gtcaatttta	cacctttcct	gcttttctct	gtgggcattt	agtgtctatta	11460
atttccctct	acccactgct	ttaaagtgtg	cccagagatt	ctgggatgtt	gtgtctttgt	11520
tctcattggg	ttcaaagaac	atctttattt	ctgccttcat	ttcgttatgt	gcccagtagt	11580
cgttcaggag	cagggtgttc	agtttccatg	tagttgagcg	gttttgagtg	agtttcttaa	11640
tcctgagttc	tagtttgatt	gcactgtggt	ctgagacaca	gtttgttata	atttctgttc	11700
ttttacattt	gctgaggagt	gctttacttc	caactacgtg	gtcaattttg	gagtaagtgc	11760
agtgtgggtg	tgagaagaat	gtatatctctg	ttgatttggg	gtggagagtt	ctgtagatgt	11820
ctattagggtc	cacttggtgc	agagctgagt	tcaattcctg	gatatacctg	tttaacttctg	11880
tctcgttgat	ctgtctaata	ctgatagtgg	ggtcttaaa	tctcccata	ttattgtgtg	11940
ggagtctctt	tgtaggatc	taaggacttg	ctttatgaat	cttggtgctc	ctgtattggg	12000
tgaatatata	tatttaggat	agttagtctt	tcttggtgaa	ttgatccgtt	taccattatg	12060
taatggcctt	ctttgtctct	tttgatcttt	gttggtttta	attctgtttt	atcagagact	12120
aggattgcaa	tccttgccct	tttttgtttt	ccatttgctt	ggtagatctt	cctccatccc	12180
tttcttttga	gcctatgtgt	gtctctgcac	gtgagatggg	tttctgaat	acagcacact	12240
gatgggtctt	gactctttat	ccagtttgcc	agtctgtgtc	ttttaattgg	agcatttagc	12300
ccatttaaat	ttaagggtta	tatagttatg	tgtggatttg	atcctgtcat	tatgatttta	12360
gctggttatt	ttgctcatta	gttgatgcag	tttcttccta	gccttgatgg	tctttacaat	12420
ttgggtatgt	tttgacagtga	ctggtagctg	ctgttccttt	ccacgtttag	tgcttccttc	12480
aggacctctt	ttagggcagg	cctgggtggt	acaaaatctc	tcagcatttg	cttgtctgta	12540
aagtatttta	tttctccttc	gcttatgaag	cttagtttgg	ctggatgtga	aattctgggt	12600
tgaataattct	tttctttaag	aatgttgaat	attggccccc	tctctcttct	ggcttgtaga	12660
gtttctgccc	agagctcagc	tgttagtctg	atgggcttcc	ctttgtgggt	aacctgacct	12720
ttctctctgc	atgctcttaa	cattttttcc	ttcattttcaa	ctttggcgaa	tctgacaatt	12780
atgtttcttg	gagttgtctg	tctcgaggag	tatctttgtg	gtgttctctg	tatttctcta	12840
atltgaatgt	tggcctgcct	tgctagattg	gggaagtctt	cctggataat	atcctgcaga	12900
gtgttttcca	acttggttcc	attaatcctg	tcactttcag	gtacaccaat	cacacataga	12960
tttggtcttt	tcacatagtc	ccataattct	tggaggcttt	gcttggttct	ttttattctt	13020
ttttctctaa	actcctcttc	ttgtttcatt	tcattcattt	gatcttcaat	cactgatacc	13080
ctttcttcca	cttgatcgaa	ttggctactg	aagcttgtgc	tttcgtcaca	tagttcttgt	13140
gccatgggtt	tcagctccat	caggctcctt	aaggacttct	ctgcatcggt	tattctagtt	13200
agccattcat	ctattctttt	ttctagggtt	ttaacttctt	tgccatgggt	tcgaacttcc	13260
gtcttttagct	cagagaagtt	tgatcatctg	tagccttctt	ctctcaactc	atcaaagtca	13320
ttctcogtcc	tgctttgttc	cattgctggt	gaggagctgc	attccttttg	aggaggagag	13380
gcgctctgat	ttttagaatt	ttcagttttt	ctgttctggt	ttttcccat	ctttgtgggt	13440
ttatctacct	ttggtttttg	atgatgggtga	cgtacagatg	ggttttggcg	tggatgtcct	13500
ttctgtttgt	tagttttcct	tctaacagtc	aggacctca	gccgcaggtc	tgttgaggtt	13560
tgttgagggt	ccactccaga	ccctgttttc	ctgggtatca	gcagcggagg	ctgcagaaca	13620
gcgaatatgg	atgaacagcg	aatgttgctg	cctgattgtt	cctctggaag	tttcgtctca	13680
gagggctgcc	cggccatgtg	aggtgtcagt	ctgcccctac	tgggtggtgc	ctcccagtta	13740
ggctactcgg	gggtcaggga	cccacttgag	aaggcagtct	gtccattctc	agatctcaaa	13800
tgctgtgctg	ggagaaccac	tactctcttg	aaacctgtca	gacagggaca	tttaagtctg	13860
cagagggttc	tgtctgcctt	tgttcagcta	tgccctaccc	ctagaggcag	agtctacaga	13920
ggcaggcagg	tctctttgag	ctgtgggtggg	ctccacccag	ttcctggccg	ctttgtttac	13980
ctactcaaga	gcttcctggc	cgttttgttt	acctaactca	gtctcagcta	tggagggcac	14040
ccttccccc	gcctcgctgc	caccttgacg	attgatttca	gactgctgtg	ctagcaatga	14100
gcgaggcttc	gtgggtgtgg	gacctctga	gccaggcgtg	ggatgtaatc	tcctgatgtg	14160
ccgtttgcta	agaccattgg	aaaagcgcag	tattagggtg	agagtgaccc	gattttccag	14220
gtgccgtctg	tcacagcttt	gcttggtctg	gaaagggaat	tccttgacct	cttgtgcttc	14280
tcgggtgagg	ggatgcttcc	ccctgctttg	gctcatgctc	ggtgcgctgc	acctaactgtc	14340
ctgcaccac	tgtccgacaa	gccgcagtga	gatgaacctg	gggcctcagt	aggaaatgca	14400
gaaatcacct	gttatctgtg	tcacttgac	tgggagctgt	tgactggagc	tgttcctaata	14460
cagctatctt	ggaaccgcct	ctgaaagctg	gttttaaatgc	ataggtttta	aatctgcctc	14520
ctacagaaaa	tacaatccta	caaaccttaa	tgtaggaaca	gaaattttca	tttgaattta	14580

gaagtttttag ctttaagttaa acttaaaatatt aatatatttatt ttcacctctt actagatatc 14640
 ttaatagata tttttttgtcc tgaaagaggt tgaggataaaa actgtgtctct aacaggaggtt 14700
 agaaatatat tatttttctgg aaaatcactg aaaacaaacc taggtttact taggatgttg 14760
 ctgtgaaatt cacctcgttt taaatttatg ctttagaggct gtaaaattgt attcaattaa 14820
 tatgaaaaca tttaaaatgc tttttaatgt taacaacctg accctgtgct ttttaactata 14880
 gctgacagac tcaagtgttc tgttttcctt tccccagaac cactaaaaat gaaccttttg 14940
 gacactggtc cttttgtgac aatttttaggg acccagctcc attggctctt gactttacct 15000
 gctcccattg ttttatccaa gctctgcctg gtttctgacc ctttgtctct ttcggttctc 15060
 ttgcttgccc tgtgtgtttg atgatggagt ttgtccctgt ccctgaaacc ttgcctgaac 15120
 tcctggaaat ctttgagaat ggtgtacaca catatccact tccaccatg tgcctctaac 15180
 ctcagcctca cccgggttat tgaccagtc tgacctagct tcagccctca aaggctccac 15240
 tgtgccaagc ctggctcatc accctctctc ccaataactg ttctttgtcc ccaaaagggg 15300
 ctgaggtggg gggaatgggc agagtaaagc attttaaaag agaggagaga aaaaaagat 15360
 aggaagctat agaaatggaa atgtaagatg aggaaaatgt agtctagaag gcagaggagg 15420
 aaagaagaac aaagagaaag agagccataa atgggtcaat caaaaacaga aagaaaagg 15480
 gagaaatgga agaggactaa taagacagta acaaagtcct ttgaagtgtt agaactga 15540
 actgctgggt agttcttgag ggttgtgcac ttcactgtga caactggtat cacccttccc 15600
 ctctgtagg agtactgtgt ccaagattct tgggtgtggc caccagcgca ggcttctat 15660
 ctctctccaa catcctctcc cacactttgt actgtgccct tcaggaattc cactgccagg 15720
 ggttacttaa gcattccatg tagtttctag ttaccttctt attctaagcc taaattcttc 15780
 ctacttcttt tacactcgcc gattcttctc cagcgaactc cctcttacct ttcaagggtc 15840
 tgcatacttg gcaggtgaca ctggtgaaaa cttaaattttt aaaaaagggt ctgcataagg 15900
 atctccatag gcaagacttc cctaagggtgc ataataagac acactgtaat gtttattgtg 15960
 cttcactact gagttgcctt tttaaagcta acttaaacct tctaaaggga tcttatctca 16020
 aaactcagag catctatatt cctctatatt aaattctccc tctgaaatat tctgaatgct 16080
 tttttaaagg atgtgggtgtg tgtgtgtgtg tgtgtgtgtg tgtgtttaaa cttaatgtct 16140
 ttcccattgc gttctttatt accacaggag ctctgggata tcaaataata tttcttaaac 16200
 ctttatccct tttgattgta tagtaattat ttattcaaat cagataccaa ttaaacataa 16260
 ttagattgat ttcttcacag aatacaaaat aaacagaatc atgaaattaa gttgttaatg 16320
 atttgaaggc ctctttttct aagacattca tttacaactc ttaaaaaagt actgacttta 16380
 aataaaaaatc caaagaatat ataattatgg aagaggagaa attccattcc acagctaagt 16440
 attattttat ttcttttttt tagtttcgat actccgattg gcaggataaa ttgtttatgt 16500
 cgctgggtac catcatggcc atagctcacg gatcaggctc cccctcatg atgatagtat 16560
 ttggagagat gactgacaaa tttgttgata ctgcaggaaa cttctccttt ccaggtaagc 16620
 atttctttac cttttaaaaa aatccatagc atttctttta ctgggtaaaa atttgggagt 16680
 tgattttgct attcattacc atcttattta atgatttgga tatctgggtg actccagata 16740
 tcatagaagg agttgtaaaa ttctcagaaa attgttcaaa tactcgttta aatttaaaga 16800
 aatatgtgta ttgttgtttg acttttaata cagggtgaagg aaatacacag gaagcttcta 16860
 aataaagtaa ggaagtcact ctacttgaga acagtggaaa tgtaatgaga gtatctctat 16920
 gcagtatcca tcccattagt aattgctgat gagtttcaaa gcacatcagt taaacatggc 16980
 agtacttctt agctgtgttt agctttaga tctgtttctg ggttttcttt tcttctctcc 17040
 ctttcacctt aaaaaaaatt ataccattt tctgtctcta attttgatc aaccagattg 17100
 actggaactt gagatggcat ttcactaaag agtgaatgga ttcaatacgt cccttggaac 17160
 tcacccaaag gactatgatt actgaagagc caagtgtccc ataagttaat gttatcaata 17220
 cgagaggccc tgacaatagc attacagtgg ggctccaata gacatggtta tttcatagt 17280
 aacgaaattc aacatagaaa ggaaaatttt catgctttct accaagcctg aagcctcttt 17340
 tctctaagag accttgtggg cactgggctg gagaagactg agtgaagctt tactgttgca 17400
 cagatggtag aatattttca aaacactggt aaaggaaagg cagctttctt agcaaagata 17460
 tgtaagaaaa attactctat catttagaca gcattgaata agaatttaca gtgttactg 17520
 actgagaact acatatttag ttactattgt aggccttacg tgtaatttcc taagagaata 17580
 ggattgttta attaatacag cagaatatgt ttacataaat attgataaat attaatgcct 17640
 tttaaaaatc cagtaaaagc atcctttgaa tatttaaagc aaactcctat aaaagtttat 17700
 ttattttatt tcaagtaata tagtttctga aaaaaacctc tttataataa aaataacaat 17760
 aatgggtgatt ttccattgtg ctactatgt gctaggctct atgctgagca ctttacatac 17820
 attattccac ttaccctca caagaacaat actacacagt aggtaatgtt atcttctgtg 17880
 atagatggca aaaccaaggc ttggagaggg caaataactt ttccatagtt acactgctgg 17940
 tctttctgcc atccaaacca tgcttattat catatatagt atagtgtcaa tatagatgat 18000
 tcggaaaaaa aagtgttttg gaaagtttta aatggattgc ttatttgtga ctagtgacca 18060
 aaactttaac ataaacattg tgaagttgtg gtaggacaga tagtttaaaa agtctttaaa 18120
 gaggctgggt gttggtggtt cacacctgta atcccagcac tttgggaggc caagggtgtg 18180
 gcaattaaagt tttgagtttg ggagttcgag accagcctga ccattgtgga gaaaccccat 18240

ctctactaaa	aatacaaaaat	tagccaggca	tggtgggctca	tgccctgtaat	cccagctact	18300
ctggaggctg	aggcagagga	atcgcttgaa	cccagggggc	ggagggttgcc	attgcactac	18360
agcctgggca	acaagagcaa	aactccgtct	caagaaaaaa	aaagtcttta	aagaaatggg	18420
agaggtagga	attttctatt	gtgtatttgt	tttcctagaa	aatctacaga	tctacaacat	18480
attaattttg	tatacatata	gagcaggatg	atgcccatat	taagacacct	cagttaaaaa	18540
tctattttct	atggaatact	acacacctat	aaaaaatacg	aaatcaccag	ctacttgggg	18600
agctgaggct	ggagagttgc	ttgaacccag	gaggtggagg	ttgtagtgag	ccgagatggg	18660
gccactgac	tccagcctgg	gcgacagtgc	aagaccttgt	ctcaaaataa	ataaataaat	18720
aaataaataa	ataaataaat	aaataaatac	aaaatttgtgt	cctttccagc	aacatggata	18780
cagctggagg	caattatcct	aagcaaat	acacaagaat	agaaaaccaa	atactgcata	18840
ttctcactta	taagtgggag	ctaagcattg	ggtaacacat	tgacataaag	atgagaacaa	18900
tagacactga	gatctactag	agaggggagg	gagggcagca	agtgttgaaa	aaccaaatac	18960
taggtattat	gctcactacc	tggttgacag	gatcattcat	atcccaaacc	tcagcatcac	19020
acagtatccc	catgtaacag	aactgcacat	atacccctcg	aatctaaaat	aaaaattgaa	19080
attattttta	aaagaaaaga	aaaaagaaat	gcagactccc	aggccacatc	tggacccact	19140
gaattagcaa	tggtatttta	gcaagacatt	tccttcccca	cagtgaatca	gagatgcatt	19200
tatgcacatt	aatactcaag	ggtctattaa	atggtctgac	cttcagatg	cggagctggg	19260
tttctcacc	atccctttag	tagcaggaca	atgactgtat	aggaacttac	accagctgcc	19320
tttgattttc	atcttatttc	atctggaaaa	aaaaaatcaa	agaaactaca	aagacgtttc	19380
tccaactcct	gaattgtcag	caccatatct	ccactgcccc	tactttgaaa	ttatcttttg	19440
gtttcacatt	tcctgatctt	caaaccataa	agcaccattt	attagagcac	caatggaata	19500
tttttggtga	ataagacca	actttatctg	ttcatgtatg	gtctagcacc	tcttttcaag	19560
tgctgcagat	attatctctt	ggtgactcac	attagccttc	cagcgaagca	cttatatgtc	19620
cataaaatat	ctgtgaaata	atgtagagaa	actgatgatt	acttctaggg	agagaaaagt	19680
agtggctttg	aaaatgggtg	ggtgtgatgt	ctccctgtat	tctcgcttgt	aactggtgac	19740
gtatacacct	ttaccaagaa	aaaataaagt	taaagtaaaa	aaaaaatttt	aatggccttc	19800
tacacaggg	taaaaaaatc	agattaacag	atgaatggaa	aaataagata	tggtagatc	19860
atacaatgga	atattattca	gccttttgaa	gggaaataac	ttctgacata	tgctatgtca	19920
tagatgaacc	ttgaggacat	gacgctaaat	gaaatgagcc	actcaaaaaa	agataaaatac	19980
tgttcgattc	tacttttatg	aggtatctag	agtaaaattc	ataagaacgc	aagtggaaatg	20040
gtggttaata	ggggttggtg	ggaggagcag	tggggagctg	ttgtttaatg	ggtatagaat	20100
ttcaattttg	caagttgaaa	aagttctgga	ggttggtctg	acaacagtgt	gaatatactt	20160
aacagtactg	aactgtacac	ttaaaaatag	ttaacatggg	aaactttatg	taagggtattt	20220
tatcacaaat	aaaattttta	aagtcagatt	aaagcaatgc	aattcactta	tcacacatca	20280
tttctctttt	ggaccaattt	tattagttct	gtttttgttt	ttactaatac	cagaataaatt	20340
cccaactttc	ttattttgag	cagtttgctt	tttttttttt	ttttaacttg	tgccataatta	20400
tgaaactgaa	tggctttaag	ctggacatgg	cagagagggtg	ccaaattcaa	ggtctctctg	20460
gggaatggca	caagcaagtc	acttacagaa	ctgtggttga	cacagagata	aactcgcgag	20520
agttgccaac	ttfgtttttg	tagcctccga	attataaaca	ctcctgttat	gatgcttggt	20580
acccttagc	catgtttctc	attaggctta	ctggatgcta	tggagtattt	agatggaaaag	20640
ttcctcaaat	ggtatgaatt	tccagcatcc	actctttggg	cgtttgtaaa	aataatattc	20700
tcataacctt	tagaagacaa	tgaatctttt	aaaggatact	cactctaaat	ccagactgct	20760
tattgatgtg	ttgagagttg	tagagtttaa	caaaaatcat	gggggttggtg	aacagataga	20820
gtgaggtagt	tagctgaggt	tccagcttat	ctcttagaga	tgtttactta	gtctattctt	20880
tagaattggt	ggatgcttgg	acaaccagac	ttaataggag	ccaaatgaga	aaggcatggt	20940
agaagaaaaa	aaggttcata	ttacaagagg	gtctgacaat	gacttattgt	gagcaaaagt	21000
cgctcttgct	aacagaataa	agccactcca	tgacagggtt	gttccctcac	aatgagtcag	21060
ttgtgcagaa	agtatgcaca	caacattctg	catccaaaac	attaaggacg	gagttggaga	21120
aaacagtttt	tctgcagagt	gtcaaggact	tgatatcttt	tatgctgtct	ctgtgactat	21180
aatagtctag	aaaattctgc	gggaaaatag	ctgcaccctg	attgtccttg	cattgcctct	21240
tgtttgaggg	gaaaaatgcc	attttgagcc	ccaagatat	cttcataact	gtccatagtg	21300
cctagggtgc	ctgaacaaac	accagctctt	tattttataa	tgaatagtcc	tatgtgttaa	21360
agaagtcct	aggcaacatt	taaaaataac	taaaagtaca	taattggatt	gtttgtaaca	21420
caaagaaagg	agagatgctt	gaggtgatgg	atacctctct	ttcttccctt	ttgaaaaaaa	21480
agaagtcctt	gggcagaatc	cggaaggca	gacattgatt	tactttgaga	ctcaaaagtg	21540
aaaatgaaga	ctatgtttcc	ctatctaate	cttaatgtat	acactgctta	ttcagaccct	21600
tcaccataaa	gctgtgtgac	catgagcaag	tctcttaacc	tctataatcc	ttactgttct	21660
catctttgag	aggtaaagcat	caatttactg	atagaattaa	gtgagatgat	ttgtgtaaag	21720
tgctggaac	atagtaaatg	atcaataaat	attgggacaa	actagctata	agaacttgga	21780
aatgaaacaa	cccactctgt	ctcttcatct	gtaaaatgga	taggttatat	aggtactctc	21840
taaaatgaac	aggcagcttc	aggagttccc	cagtttctta	ctacgggagg	cattcaggtg	21900

gactggggtg	taagttctcc	atcctggcat	attagaatca	accaggggtac	tttttctttt	21960
ttgagacagg	gtcttgctct	gttgcccagg	ctagagtgc	gtgaagtgat	catagctcac	22020
tccagccttg	agctcctggg	ctcaagtaat	cctcctgctt	cagtctcctg	tgtagctggg	22080
actacaggca	cctgccacca	tgcccggcca	actttttgta	aaggtggatt	tcaccacgtt	22140
gccagggctg	gtctcaaact	cctggcctca	agtgatcctc	ccgcctcagc	ctcccaaagt	22200
gctgtaatta	taggtgtgag	ccaccggggc	tggcgggggg	cactttataa	aaatgtgatg	22260
ctctggactc	aaccagagat	tctggctgca	ttgggcttga	gtggagcctg	aacatctgta	22320
attcttaagc	tccccatgta	attctaattgc	acagacagcg	ttaagtacca	ccaagccaaa	22380
tgaccatgta	gatatcgitt	atgagactga	agcagaatag	gtagcatctg	acaagaccag	22440
gagtaggctc	ttttcagatc	tagcaggcca	tgacttttca	ggcaacacac	caacatatgt	22500
ttagtccacc	tttgtcccag	gcagcagaaa	ctctgagttt	ccccggggac	tctggagctc	22560
ctcagggttac	taaccacgca	ctagattttcc	attcttgaga	ctctgagaaa	ggagcgggtc	22620
caatctggaa	cgctcataga	ttcttttcta	ggaggggagag	tcaatttgag	ttggtatctg	22680
tgtagtcca	ttttgtgttg	ctaggaagga	atacctgaga	ctgggtaatt	tatgaagaaa	22740
atatgtttat	ttggctcatg	gttcagcagg	ctgtaaaagt	atggtacca	catctgtttg	22800
gggcttctgg	caaagcctca	ggaagctttt	actcagttag	ggaaggtgaa	tggggagcag	22860
atgtgtcaca	tggagagaga	gggagcagga	gggagaggcc	aggctctctt	taacaaccag	22920
ctgtcacatg	aactgagtga	gaactcgctc	attatctcag	ggagggcacc	aagccattca	22980
tgtgggatct	gtccccttga	cccaaacc	tcccatcagg	ccccacctcc	aacactgagg	23040
atcacatttc	aacgtgagat	ttggagggaa	caaatatcca	aaccatatca	gtatccttat	23100
tgagagaatt	taaaagtttg	aggtaggtgt	tgaaagagag	gaaaaactta	tttaagattt	23160
cacccaattt	ttcagttcag	ggaaataaaa	aaaccacaat	gattttttaca	aatgccacag	23220
ctttagaata	gcttgctgc	ctctagttcc	aaatactctt	ccaatttgcc	ctatttataa	23280
cttcaggatg	gaaatgaaca	cacagaaagg	aactgataag	atgaaaagta	aaatagggtta	23340
tgaatcttca	aggttctgat	agcttataaa	gagctagatt	aataatcgga	aattttcactg	23400
tgaacatcag	tagaaattat	aatcctgggg	gaaagatgat	gctgcagttg	gggccagatg	23460
cctggtaatt	gatcctgaca	gtagtttgag	ttttaataa	gtttcaacct	tatctttctt	23520
tggaaaaaga	taaggaggat	acacagcacc	acgaaaacac	gaaaaacaga	ccccggggt	23580
atttacacat	ggcaaaggaa	caaagagacc	aatttctctc	ctaggaccat	ggaaaatgag	23640
aaatatgtac	cctgatgtgt	tttctcaaca	atgctgtggt	gatattttat	cctattattt	23700
tgtgaatgca	gtagatgtag	gctgtttctt	attttttcat	ttgtcttttc	taaaaataa	23760
aaataagtca	ttgtcacatg	aataaatcag	tatagtatag	tgttacgagc	ataggccaaa	23820
ttgctggggc	tgactttcag	ctctgccact	tactagctgt	atgacattga	gtaagttact	23880
ttatttatct	gtgcctccat	ttcctattct	ataaaatggg	gtttgtgaaa	tagtctcacc	23940
tcataagata	attaaatgaa	ttaacacacc	taaagtattc	agagcagtgc	ctgggtattta	24000
ataaatgctc	aataaacatt	agctattatt	aaaacatgga	aatcaggaaa	gatacattga	24060
catttttatca	aattagctca	aattaataga	caatagattt	ctttccaatt	aatactgctt	24120
caaaaaatac	tagaatacag	cagtgcctgt	aaacaagagg	tggaatgcag	gatgttcact	24180
aattgccagt	gatcactgac	atgcctttga	gcaactaagt	tatcttccct	gtctagtttt	24240
tcctcctttg	cgatggatgt	aacttagcct	ttcccttact	tatgtcatat	gagacatgta	24300
aagaaaaaac	acacagatat	aaaaataaaa	tttattgaag	ttctataaag	tgctttgagc	24360
caccaaaaaa	aaaaaatgcc	tcttaaatcc	tgtgttttct	attttaata	tttcttattc	24420
cctcctctgt	cttctgtgtg	ttttgtggct	tccttgtctc	ttcagtggct	cctctgtgcc	24480
tccttagaag	gctgccttgc	taaaggctga	gaccgccagg	atgggggaaa	gacctgggag	24540
ggcttatctt	cccctttctt	ggcccttaat	gtccagtacc	taaacccttg	ggctctttac	24600
ttgagtaaa	tgaaaagaat	gcacttaagt	gtgcaaaaga	aagtgttttt	taaaagaaaa	24660
cttaacaata	gcatcttcta	gctttcatac	atlttaatta	ttaacagatt	tttaaaaacc	24720
tggcaatgcc	tattaatagt	ttgatctttt	aacatgtttt	atltttattt	ttaathtagt	24780
gaacttttcc	ttgtcgctgc	taaatccagg	caaaattctg	gaagaagaaa	tgactaggta	24840
actcatatat	atggtctact	tttttaaagt	ttcatttgaa	gataatttcc	aattacagag	24900
ttataagaat	atacaataa	cgtgtactct	ttaccagat	tcacctatta	ttatcatttt	24960
tgctcccaaa	tcccaattta	aagtaagatg	cacacatcat	ggccctttac	tgcagtatga	25020
ctcctaagaa	taaggatatt	ttcttacata	atcacagtac	agctatttag	ttcagtaaat	25080
ttcagtactt	ttatctaata	taacatctat	attccaattt	tgtcatttga	tccaataatg	25140
tcattttatgg	catttttctcc	tccttctagt	ttctcaatag	aaatctctaa	agcctgtaag	25200
catgatgttt	gtatgtctgc	atagcagtg	tgctgattgt	aacgagtgc	gtctgtatgc	25260
taaaaggcct	gaaagggtgc	tatctggaag	cagtttataa	aattagataa	taaaaatttg	25320
aaagtattga	tatgtactta	ttatttttta	aaataactaac	tttctactaa	tttggtaaaa	25380
cattccaaat	tcgtttgaat	tcatgacatt	ttatcatatc	tttttttaaa	atatttcaaa	25440
ttctgacaaa	taggaacaaa	gttttttggt	tctttttata	aagaatgtgg	aaaaatcaat	25500
atggaaaggg	cgatttcaca	tgttcaatct	gcttattact	atatttgcaa	tatgtaaaata	25560

gtagtgaact	tttcagtaca	ataagatata	caagtctaga	atataattat	taaagaggag	25620
ttaaattgta	tccacaagtt	atcaatatca	gttaaaaaca	aatcattaac	ttttttgcag	25680
ttaacaacaa	aaatttatcc	attttctttg	gctaacagtt	caagtaaata	gatttgccat	25740
catggagctc	atcactttat	aatttaaaaa	aagaaaaatg	taatgtctgt	ttgtttataat	25800
gtcctataca	gtttttgttt	taagtttagt	aaattgatta	atttccagtt	ctgaaaaattt	25860
ctcctgaaag	agatgaataa	aggatggtag	ggtgggggtg	gtgggtcatg	ctataatccc	25920
agcacttttg	gaggcggagg	tgagcagatc	acttgagggtc	aggagttcga	gaccagcctg	25980
gccaacatgg	tgaaacccca	tctccactaa	aaatacaaaa	attagccagg	tatggtggtg	26040
catgcctgta	atcccagcta	ctcgggaggg	tgaggcagga	gaatcacttg	aatccaggag	26100
gcggagggtt	cagttagctg	agatggtgcc	actgcactcc	agcctgggtg	acagagttag	26160
actcagtttc	agaaaagaaa	agaaaagaaa	aaagaaaaga	gaaggtattt	aatagagcct	26220
ttctcttttt	tttcagatat	gcatattact	actcaggatt	gggtgctgga	gttcttggtt	26280
ctgcctatat	acaagtttca	ttttggactt	tggcagctgg	tcgacagatc	aggaaaatta	26340
ggcagaagtt	ttttcatgct	attctacgac	aggaaatagg	atggtttgac	atcaacgaca	26400
ccactgaact	caatacgcg	ctaacagagt	aggtagattg	ttaatgtcac	actttcataat	26460
agaaattaat	tactgtgtga	aaatatgtca	aggaaagatt	ttaaataaaa	aatgttacta	26520
gattgagcat	ctgatctata	ttagaaatcg	atcatctggc	agccatgtct	agcagcatct	26580
atagcctatg	ccattgcatg	ttggctttcc	cccaagggtgc	atagtaggtt	tattttgagga	26640
ctgaattcac	atcttatacc	tgttttattt	tcatggaact	ttctactgca	ggacgtgaca	26700
ggtgctagac	tgtagtaaaa	gatggttgaa	tcaatgaata	gatgattgaa	ttaattttaca	26760
aagagacttg	cttttagtaat	tgtcaactct	tcacttattc	aacaaatatt	tgagggtgtt	26820
tcattgtgca	agtaccattc	tgtgtgttcg	taatatatca	gtgaacaaa	cacagatctc	26880
tgtccttttg	gtgcttacat	tccagtagag	ggagatagat	gataaaacttt	cctgactggg	26940
agtcttgcca	aaggcatcct	gagcaaatata	gtcaaaaaaa	aaaaaaaaaa	aaagggaaaa	27000
gcaagacatt	tagggccttg	taaaacctcca	caaagacttc	aagacttcag	ctttcaccca	27060
gtgaaatggc	agccgctgga	agtttctgag	ctgaggagta	gcatggtcag	acttgcattt	27120
tcaaagcatc	ccactggctg	ctgtgttgag	aatagacttg	gttgggaata	gggacaagag	27180
tagaagcaaa	gatctcttcc	ctattacttc	cctataagaa	gaaatgcagt	aatacttccc	27240
tactactgtt	gcttattatt	gttgcaatgt	tcttcttaaa	tcttgctttt	aaacagatac	27300
atttttatgc	tcaaaatggt	aatgcttctc	tcataggatt	gactcattta	atagtatcaa	27360
cttaaatgata	ctaacttatt	agaagcattg	atcaatcctg	aatttcttcc	tttgtgcggt	27420
gttttaggtg	ggaagatgtt	attcaagagg	ctaagactct	gaaagaggct	tgcagtcagt	27480
gaacaaaatt	tacttgtcta	tgtgtttgtt	ggatgtctac	ttcatctttc	taactgaaac	27540
ctcctgcttg	taaccactta	ggtgtgatct	tttttagtga	catctccaaa	atcagtgaag	27600
gaatttggtg	caagggttga	atgttctttc	aagcagtagc	cacgtttttt	gcaggattca	27660
tagtgggatt	catcagagga	tggaagctca	cccttgatga	aatggccatc	agccctattc	27720
taggactctc	tgcagccgtt	tgggcaaaag	tatgtgaaag	ctgggccttt	ttatgtgtgt	27780
taaccctctg	acacagtaat	ctttaatatg	cagaagtctc	gtacttgtac	ctgttcaggt	27840
ctacattaaa	tgtcagttga	aactacatcc	agtaacatgg	tgttaatatg	atgctttcat	27900
aaggaaatta	attttttaaca	taattcaaaa	tgtcacaggc	tgggtgtggt	gactcattcc	27960
tgtatcccag	cactttggga	ggccaaggta	cataaatcac	ttgaggtcag	gagttccaga	28020
ccagcctgga	caacatggca	aaactctgtc	tctactaaaa	atatgaaaaa	ctagccttgc	28080
gtggtggtgc	atgactgtaa	tcccagctac	ttgggagggt	gagacaggag	aatcgctgaa	28140
ctcaggaggt	ggaggctgca	gtgagcccag	atcatgccac	ttcactccag	cttgggtgac	28200
agagtaagac	ttcatctcaa	aaaaaaaaaa	aattcacagt	tcttacttct	attaccctta	28260
gttaaggaag	tgcaacttta	aatataaaca	tttccctcaa	attattgcat	gaacataaaa	28320
atttttaata	gagtttgtat	ttgttctatt	tgttttaata	attacctgtg	atgggttaagt	28380
ggcactctgc	cagttttgcc	tggcaataaa	atacacaaaa	tgtattctac	tttagccaac	28440
acttcagagt	tgagaaattt	tactggcaat	ttttgctcat	cctgacgttg	atgatttaca	28500
cagtgaacta	cctgtatctc	ttttgttttg	attcttccct	tgtttttctc	ctgaaacatc	28560
ttgtttggct	atcttattat	tcagcagaat	gcccatgagg	aggtctggaa	gtattgtttt	28620
tatagtaatt	aaaaattgtg	acacaagtcc	aaagtgggtg	gatcacgagg	tcaggagatt	28680
gagaccatcc	tggctaacac	agtgaacccc	tgtctctact	aaaaatacaa	ataattagcc	28740
aggcgtgggt	gtgtgcactt	gtagtcccag	ctactcggga	ggctgaggca	gaagaatcac	28800
ttgaaactgg	gaggcagagg	ttacagttag	ccgagatcgt	gccactgcac	tccagtctgg	28860
gcaacagagt	gagacccctg	ctcaaaaaaa	aaaaaaaaaa	aaattgtgac	acaataaagt	28920
taagaatggt	aaattctttc	aaagcagtaa	agttttattt	tattttacct	tacaactaac	28980
aaagaaaaac	agtagatgtg	gaacttgaca	gtgttcccaa	gagtgtctatt	tagagaatta	29040
tgtgtggatt	ttcttttttc	ctgagtactc	ttggggagcc	tatcaccagg	gtgggtcaga	29100
tatagccttt	gagggatgtg	gacgcagcca	ttggatccag	aacactggca	tttgctacat	29160
gactttaata	tttgttaaag	gagaggggtt	gggaagaaaa	agtaggttaa	agggttgacc	29220

agagtgcctt	taaacttttc	tccctataca	aaagtgatca	ctgtttcttt	tctgtccaga	29280
tactctcggc	atttagtgac	aaagaactag	ctgcttatgc	aaaagcaggc	gccgtggcag	29340
aagaggctct	ggggggccatc	aggactgtga	tagctttcgg	gggccagaac	aaagagctgg	29400
aaaggtcagg	aagggttcttt	agccactggg	ttaaggaatg	tggtttttaca	ttttgttgct	29460
tcttctttgt	ggtatgtgtt	ttttaccttc	cctttcctaa	tattaaccct	tctcgcataa	29520
attataagca	ccctttactg	atggctatag	ttgaatgtca	gactctaaag	caagattctt	29580
aatcatttat	gttccatgga	ctcttttggc	tatgtgataa	tacaaatgga	ctcccttggt	29640
tttaaagtca	taaacccaaa	tatgctagcc	ctttgggaag	ccaaggcagg	agggtagctg	29700
gaatccagga	gctcaagacc	agcctgggca	atgtagtaag	accctggctc	tacaattttt	29760
ttttttttta	ataagctgag	tgtggtggtg	tgcacctgtg	gtcccagcta	ctcaggaggc	29820
tgaggcagga	gaatcccttg	agcccagaat	gtcaagggtg	cagtgaagctg	aactccagcc	29880
tggatgatag	agtgaagcct	tatcacaaaa	aaagagtaaa	aatttttttaa	aaacccaaaa	29940
ataaataaat	aaaagcccca	aaaaacaaaa	taagtagggg	tacaaaggaa	aataattata	30000
ttaaaaatac	ttatcaaaat	attttttatt	ttattttact	ccttaatgac	tatgaactgg	30060
aatatagaag	agaaaaacct	gagaaaacat	cgacttccta	gttatagccc	agaattcttt	30120
gtagggcctt	gtgggtcctc	cataacaatg	aggcagggct	tcccaccag	gcctctggca	30180
ttcaacttta	atgatccagg	ataagcctgg	aaaattgacc	agtatctgga	ggcatgttgc	30240
aaactcttct	ctgaaaaaat	tatcaaggca	tgattgacat	atgaaaagct	gtgtatacat	30300
cttttagtgtg	tatatctcaa	tgagtttggg	gataagaata	cacctatgaa	aaaggctatt	30360
ctgctctact	taaatgaaaa	taattactta	gggttttatt	taaataacaa	tatcccctac	30420
tgtagttgaa	gtatgattcc	atataaagta	ttttcttttg	ctattctatg	ggactcttga	30480
tactcacaac	tcttggatat	aaaaattctc	tggaaaattct	ctagcattaa	aaacaaagtt	30540
tcccttattc	cccccattta	attttctact	tttctattcc	ttaatccctc	ttcaaagcca	30600
acatgtttct	gatcctctaa	cctcttcctt	ttttctctct	cactgtctgt	tcctgtacat	30660
aatagtccac	acagaccaca	ctaaccctca	gttggacctc	aggatgtcag	tgtaatctgt	30720
gccgtcccat	tagccccggg	aagcgagcca	cctaagcaaa	ggtaattaca	gtgtgtccgc	30780
tgctgtcact	ggagctgtgt	gtcacactgg	gcagatgcaa	gtcttcctgc	cacgccttga	30840
ggctcagcca	cacaggagaa	atcacagcgc	tagctgtggc	ctgctggcta	ccccagaga	30900
tgagctgtgtg	ctctatgaat	gcagcccca	accagtgaa	agcaccctga	agacctgggt	30960
gctttacgca	ataaaaaaga	caaaccttct	gatggcagaa	tatgtttttt	aaaagactaa	31020
tgaattctca	tgttttatft	ggttcaacac	taaaactggg	gttgctgtgt	tttgtttttt	31080
gttttttttt	gtcacaaaaga	aaaatatcct	agtttgtgtg	atattttccc	ctcgaagtgt	31140
cattgcatac	ccattggatt	tttcttttaa	tttcaggagg	cccaaattaa	attttacata	31200
ccctctgggt	ctagtatgaa	aaagtagatt	tgatttaact	tgatgaaaaa	aaattgtaat	31260
ttaacagaat	cattctagat	attttaaact	ttatatcaaa	tgccagcagc	cagtaataat	31320
gcatttgaat	tatgattcaa	agatatgata	gtaatagaat	gagcaaaact	caggaagaga	31380
taaaagttga	acacaatgat	actaatataa	tagtaagaga	aatgatcagg	cttgctaact	31440
atgaaccagc	tactgtacta	ctttctacaa	ttatctacca	acctcacaat	tatcttgcaa	31500
attaggcatt	attaaatcca	tttttcatat	atgaaactaa	agtctggaaa	aattgaataa	31560
gaactcatat	tccataagta	gtgactacct	tataacctgt	atctagcttg	acagatgaag	31620
gtcagcctga	tttttaaaaa	agtcaaaag	agaagcctat	gtttatgtac	aacaacatgt	31680
aaaattttca	tccctcaccc	agtggacaat	agagggacga	ttttcttttc	tccagagaag	31740
agacattgac	cagagttaag	aatctaactg	tttatgagtt	ccagtacat	ttacaatcaa	31800
ttctggtttg	gcttggtttc	tctcattccc	tcttaaccct	gacttgtgat	attgccgtga	31860
aggtgatgga	gaagctcttc	catatcccag	ggtgagccct	caattctgga	ataaccacag	31920
gaatgttggt	tggcttgaa	tggtatgaag	gaaatggaac	cgggccagta	aagagaaggc	31980
ttggatctgt	tctaggcctg	gctgacctgt	aattagttca	attcccaaag	atctgggtct	32040
caccatgggt	tcattaccct	gactgacttt	gttacttaaa	cctccaacta	tataggagcc	32100
gagtgtgact	cggactatgg	attgttattc	tttaattata	tgttttccct	ctcatttttc	32160
tggtagggtat	cagaaacatt	tagaaaatgc	caaagagatt	ggaattaaaa	aagctatttc	32220
agcaaacatt	tccatgggta	ttgccttcct	gttaatatat	gcatcatatg	cactggcctt	32280
ctggtatgga	tccactctag	tcatatcaaa	agaatatact	attggaaatg	caatgacagt	32340
aagtagttct	cctaacattt	atgaagaata	tgaaaatctt	atctctccat	ctaccttctc	32400
ttttctttga	tatcgctcct	ttttgaaaga	tgaacatgat	tatagggttt	tgtttttggg	32460
gaatctttcc	actgtccagt	gggcagagct	gactttctag	tatatacaag	tcataattat	32520
gagtgtggat	aagaaaaatg	catgtggtta	gaccatttgt	gaaacatata	caatgtataa	32580
aaggaaaata	aatgggatg	aatttaggaa	taaacaaaata	tggatgggag	ccatcctccc	32640
tctgccgttg	agttttattg	tataagaaa	taagcatcat	tattacagaa	taggtcattg	32700
cacaagaaaa	tgttacattt	atatcactta	aaacaatcag	ctctctgaaa	tacaagaaga	32760
gatgttatgt	tagtttgttt	ttatttatca	aatgaagat	agcttcattt	tatgattgtt	32820
aaaataatat	atactaattt	tacaaaggat	taggatacag	aattttttaa	attaaaatta	32880

cttacaatct	aataatttat	attctcttga	tgataatfff	tggcatatat	cttccaggtc	32940
atftttctata	tatatacaca	ttgttttctt	tcaaaactgg	gatcatacta	tgtatatctt	33000
tttghtaacca	cattttatgaa	ctaccaatat	tttgtgacca	tctttttcatg	tcagagactc	33060
agaacaatat	gtaactatftt	aaatagaaat	ctttttaacat	ctgtactttcc	ctatctttgct	33120
aaaatgagga	tactgagcat	aattttggccc	tttgatgatg	acttgggggtc	attatgaaag	33180
tgaatatfttt	cagaatgctt	tatgcagttg	tatctttcaga	cttcatttgag	aggtttgtggg	33240
tgttcgactt	ggtgagccct	cattaatgct	gagtctaat	tttctcactt	ccatctttctc	33300
tctggcagtc	ggttttgaag	cttgctaccc	tttctttcact	tcctcatttta	ctattgatgt	33360
tttatgaaga	agggaggttg	aatcctgaca	accgttcacc	tttgggtgatg	agttttgtcct	33420
ctatggcctt	aattttcctca	tttgtagtat	gtggataatg	acacctatcc	ggtagggctg	33480
agattgctat	ccccagaggg	agcccaagca	aagccctctg	catagagggc	agggactcta	33540
ttgcattaac	cttatggcaa	ctatftttggt	caacattatt	tttcttttctt	actgggtcctt	33600
atctgtattg	cagatggggg	atagatatftt	aactgatatt	tgagtttatgg	gtaacatgaa	33660
gtgttgctgt	gttttgagaa	aagccaaatt	atatgtagaa	gtttttaccat	gccctgagag	33720
aaaaaaataa	tttatcttca	cttatgtttt	tctcagttaa	gttatgctaa	taatctggat	33780
tcctgaagct	gtattctgag	cttcttttata	tcaattcatt	ttcctagtga	aaaaaactg	33840
tgaagggaaa	tgtgttaagt	gttgtatgct	acagtacaga	ataactgtgt	aaaggaattg	33900
ctaaccagtg	cacactggag	tgatttttatg	ttttatgatg	tgcaaactgt	tacttttttat	33960
gttaaaaaatc	tttaaaaaata	tatgtgacat	gggtgctfttt	aggagcatta	catagggcca	34020
aaatctgccca	tgfttttatat	tgaaccgtct	atgtaattcc	atgcatagtt	agagaaaatc	34080
atataggatg	gaataataat	actgactgaa	aatgttttctt	tctgggtggca	tttgtgagtg	34140
agtcaatgaa	ataggttttga	aaaatctftt	taactctgta	tgtattcagg	agaacaatag	34200
gtagtttgag	aaaatagacc	cactcaggca	ataaaatgct	atattagcct	tgcaaattgt	34260
gctcttccac	aaaaaaaaaa	ggaaaggata	aacctaaact	taatccttta	tgtactatgt	34320
tacatatata	tcacatttta	gataataatg	aatgccagaa	tgtgacttaa	acttttctctc	34380
atgttatftt	gctcaggttt	ttttttcaat	cctaatttga	gcttttcagt	ttggccaggc	34440
tgccccatgt	attgatgctt	ttggcaatgc	aagaggagca	gcatatgtga	tcttttgatat	34500
tattgataat	gtaagtcat	tattatfttta	gtgccaaaag	aagtcttttga	gcttgtataa	34560
ttaaatctgg	cttttagttt	catatftttt	aatcaactac	attgaataag	ttgtactgac	34620
taaagtgaca	tttaattata	tgaaatgaat	gacctgttag	taataaatga	aagaaaaatc	34680
ctcttattaa	tatttttttaa	atgtatcttt	agataatata	ataaactgta	tctcatttttg	34740
gaaaaggaca	tctgcactag	tgcaagacaa	agacgtttct	cttcttagtt	tttatctttt	34800
tcactttcat	gttgtagcca	gactgagaat	cttatgatftt	ctatatggga	tggggggtag	34860
ataaattatc	ggtgggacca	aaattgacag	tatatftttgc	tgtgggttcc	ccctctccaa	34920
aaaattatca	ctgcatgttt	ggtatgatftt	taaataaact	acattaaata	aactgactac	34980
agtgaaaaag	aaaaagtttt	gacgtaaaaa	agtaagtcac	tgcaattcaa	tattgcaagg	35040
tagctaagtg	aaatttgatc	atfttaatcta	agcaatttcc	tttttcattg	atccaagtcg	35100
tgagaaaagt	gctcagtttc	tgattgtatt	aaaagttttac	attattttcta	aataactgct	35160
ataatcaacc	attcaatctt	ctcaattcaa	tctattacat	ttattatttta	ggaatgagct	35220
aattttcact	aaatgctgaa	atacttggct	ataatatata	tcaattatag	catatftttt	35280
ttattgcact	tgtataaata	tgcatatctg	accattttaga	aaattttatga	ggatatgcca	35340
aaaacttaaa	gggaaatatt	atatgaaatg	agatgaatat	ctcttacgta	cttttcaggga	35400
aaacactatt	ttctgaaaag	gagtatfttct	ttaaacagca	cacatacata	tacacacaat	35460
cttcatcttg	ggttttttctt	atgtaaaggg	gatttgtgaca	ttccagggtcc	tattttttgga	35520
atfttgctgaa	tcataattcct	taaaaatgca	acttgttttgt	gctatgatgg	aatagtcatt	35580
acatttttgtt	ttattttagaa	tcctaaaatt	gacagttttt	cagagagagg	acacaaaacca	35640
gacagcatca	aagggaattt	ggagttcaat	gatgtttcact	tttctttaccc	ttctcgagct	35700
aacgtcaagg	tactgtaagt	aatattttata	ggaatttccta	actgagggttg	attgtttgaat	35760
catttttaag	aataaagtct	ctattatftt	gatacttatg	tgcccttttcc	tttgggggtt	35820
atattccctt	atfttgatact	tttttttcaa	atfttcaaact	gaatcgaatt	attcccattt	35880
tagggctttg	ttgtgaagtg	tgttcttttt	tctcattttt	cttacagatc	ttgaagggcc	35940
tcaacctgaa	ggtgcagagt	gggcagacgg	tggccctggg	tggaagtagt	ggctgtggga	36000
agagcacaac	ggtccagctg	atacagaggc	tctatgaccc	tgatgagggc	acagtaagtg	36060
ggaagaacca	agctttccag	agtgggaagc	tggaatacaaa	ttggcccttt	gaaattgggt	36120
tttcagtaac	aaatttgctg	gtgaatccag	tttttggtaaa	aagcctacaa	aatggcaatg	36180
ccgatggata	atgccttcac	acccttgggc	tggttttcaca	aatgcattaa	ataaaagtca	36240
taaaagctgt	ggaagctgga	caaagctctc	ctctgtttctg	actaagcttt	cataacacat	36300
taaattactg	caaagcagtc	tacaaaccac	tgagaggatt	acttttcaatg	agtttagagtt	36360
tggtcaaaca	tactccatat	agcaattgtt	gggaacaatt	gatgacaatt	agggtcacca	36420
gatatttttag	gacagcaatt	aaattcatcc	aagacagttg	agttttctta	aacttaggaa	36480
tatctaaggg	ggaaagtggg	atggtctctt	aagaaactag	tctcttgaga	aaattctaga	36540

aacacagaga	cagtaatagc	ctagggtatg	tttttttgcc	atttaaaagt	tttgctataa	36600
atttgaat	acagaaaatt	gtaactagag	aactcacaga	tccttcaccc	agatttagat	36660
tgtttatatt	ttgacccact	tgctttatca	tcttctcttt	ctccgtgtgt	gtgtgtatgt	36720
gtgtgtttat	gtgtgtgtgt	gtgtattatg	tataccctta	tacttcagaa	tacattccta	36780
aaaaggacat	tctcttagat	taccacaaaa	caatgattaa	aaatcagtaa	atttaacatt	36840
aatgcaatat	acaagtccac	gagctatatt	cagaatttcc	tcagttgtcc	caattttaga	36900
gcattgagtt	tatctgatat	taaaatggat	tataattcaa	taattgtgaa	aacagaagat	36960
tataaggtaa	aaagtaaaaa	taatggcatg	ccaaaaccaa	aaatcataaa	aaggcattgg	37020
gacagaacag	agatctccag	aattaataca	taattttcta	caatacatgg	aactatttat	37080
ttaatttaat	aaaattaata	ttattggaaa	aatctgatat	tactatgggg	gaacataggg	37140
ccattctcat	ttactaaagt	aaactctggg	ttggttcaag	tgtaaatatt	ttctttattt	37200
tttaaaaaga	acctggtaaa	ataccaacca	ttgagaatta	aattattatt	gaaacaactg	37260
acatttttaa	agaaagcata	tgtaaacaga	aaaaaaagat	cttcagaaat	tctataactc	37320
agagatat	actgttaaca	tcatgattta	acaattttct	taccactgaa	ataatagaaa	37380
aaaatgocca	gtggcataat	tgattaattc	agttgttcct	taagcctctt	tccaataaaa	37440
accaataaaa	ctatgatgaa	agaaagcaat	aaaggcctga	catggtggct	aatgcttgtg	37500
atctcagcac	tttgggagat	tgaggtggga	ggttcacttg	aggccaggag	tttgagatca	37560
tcttgggcaa	ctaagagaa	tctgtctcta	caaaaatatt	tttaaaatag	ccaggcctgg	37620
tggtgtgcac	ccatagtctt	agctacttgg	gaggctgagg	caggaggatc	acttgagccc	37680
aggagttaa	ggctgcagtg	agctattgtt	gcaccaatgg	ttgcaccact	atgctcctcc	37740
aaagcctgag	tgacagaatg	aaactctgtc	tctaaattta	aaaaaaaaaa	aggacaaaaa	37800
taatgaattg	gaacaaaaga	tttattatat	atggaaaaag	tatttatatt	attattagag	37860
aagttaatat	gaatatatga	aggtaaccct	gctcattatg	aacatgcgac	tctctggaat	37920
atataaagat	ttgtaaaaag	tttcaagaaa	tggtcaactt	tataaatgta	tacaaatgaa	37980
aacagatata	agctatcacc	tcatacctat	taattggaag	aaaacagatt	aaaatgataa	38040
aaccagtg	tagtaaat	caatgaaaca	gatataatt	tatatctctg	ttgacaatgt	38100
aagttatt	aatgttttaa	gataattatt	tagcctttta	ttaacaagca	acaaatgcc	38160
agcaaatcca	gtcattgtac	atgtaagcaa	ttgttgtcaa	gggagaaaaa	ataaatcata	38220
atcttcaact	tagtaattct	ctactcttgc	aataaatatt	gaagtaagtc	aatattttaa	38280
gaagaaagga	agtaaat	agcatgtaa	aaatagcaaa	acatgggcca	ggcgagtg	38340
ctcatgcctg	taatcctgta	atcccagcac	tttgggaggg	caaggcgggc	ggtcacgag	38400
tcaggagatc	aagatcatcc	tggtcaacat	ggtgaaacac	cgtctctact	aaaaatacac	38460
aaaattagcc	gggcatgggt	gtgggtgcct	gtagtccag	ctactctcga	ggctgaggca	38520
ggagaacagt	gtgaaccggg	gaggtggagc	ttgcagtga	tgagatggg	ccactgcact	38580
ccagcctggg	cgacagagcg	agactccatt	tcaaaaaaaa	agcagaacac	cataagctat	38640
caaaattata	tgtagaccag	gaaggtaagt	gtgcattttt	atttaaat	aatattggaa	38700
cataaaaaata	atggtatgcc	aaaaacataa	aaccacaaat	tgtttatggc	aaataatcct	38760
tccacgaaaa	aactgtatat	atgaaaataa	atatcaggag	agagcataag	ctttttattt	38820
ttgttcttgc	atattgctgt	ttatttctaa	ttattatttc	taaacactga	accaagttaa	38880
atattaggt	ggatgttttt	catgaatggt	cctgatactt	cagctattaa	atggttaa	38940
acttaatatg	aaatatttct	ttctttcaga	ttaacattga	tgggcaggat	attaggaact	39000
ttaatgtaaa	ctatctgagg	gaaatcattg	gtgtgggtgag	tcaggagccg	gtgctgtttt	39060
ccaccacaat	tgctgaaaat	atttgttatg	gccgtggaaa	tgtaaccatg	gatgagataa	39120
agaaagctgt	caaagaggcc	aacgcctatg	agtttatcat	gaaattacca	caggtaaagc	39180
ctctgataaa	gtagtgttcc	ttgaaattag	aatttcacct	cataggactg	agtttattct	39240
tcaaagggtt	agctaataat	gtttgagatg	caagattgtc	caactttgct	agataagtcc	39300
cctgaatgac	tcagtttagg	gttaaaggat	tatagcatgg	tagatgatta	atataaaat	39360
ttatacagca	tgtgtcagtt	ttttataatt	cagaattcoat	ttatcttctc	atactttatg	39420
atacattaaa	atagttaaga	caaagctcca	tggtgtcttt	atgtagtctt	atagaattcc	39480
tagccttttt	aaattttaagt	tacttcaaga	gctgatccat	gttttctgtg	ttagaaattt	39540
gacaccctgg	ttggagagag	aggggccccag	ctgagtgggtg	ggcagaagca	gaggatcgcc	39600
attgcacgtg	ccctgggttcg	caaccccaag	atccttctgc	tggatgaggc	cacgtcagca	39660
ttggacacag	aaagtgaagc	tgaggtacag	gcagctctgg	ataaggtcag	tagactctaa	39720
aaagctgaag	gaccaccaca	ttgaaacct	ttgaagattc	ttgccagtgc	ttccggagtc	39780
tggtgctgaga	aacagaaaca	tagcaaattg	agctacctca	tggagctgta	ttgatttctc	39840
ctttctgtca	ggttacattg	tcttcagaga	cagggtgaagg	gtactgactt	gttttgacca	39900
tggtgcagtg	agcccagatc	caggctctta	taacaagcca	tttagctttg	tttatttctt	39960
gcacatgggc	tattgcaaga	ctacttttga	ccaaaagtag	tcatgttaaa	atataatata	40020
ttttaaatcc	ggttaccag	acactgggtcc	agctgaaaac	taattcagaa	tactcaccct	40080
atttttagtg	cagtgcacatc	atctttatct	attcatgtag	gtgaccagg	gcttttctgg	40140
aaataaagtt	caactctgta	cttgtctaag	catataaata	aacaattcat	tttaagggtg	40200

ctgagttcat	ctgtccagct	cagatatttc	taagtctctc	attagcattt	ttactaagct	40260
gaagtgtcac	aggaaagacc	ttatcttggg	acacttttgg	gggtaatgct	gatgtcatct	40320
gtattaacaa	cacaatgtaa	ataccagagt	cagatgacac	catagaaatt	agtttcaaac	40380
acataaatat	cataaatata	tttgatttaa	gacagttcag	taataatatg	tgcaagttcc	40440
ttaaggaatt	ctatctgaac	cacctcttac	aatttaagag	acaagctgca	cgaaccttat	40500
tttctcagga	aaattttatat	ctgaatccta	agttaaccta	attccctttt	atgctgtaaa	40560
ctgtagttaa	ttaatgcctc	atgggtttatc	agcttaatat	cttgactctt	tttgttgttt	40620
tttaagacag	ggctttgctc	tgtcaccacc	cgtggagtg	agtcgtgtga	ttatggctcc	40680
ctgcagcctc	cacctcctgg	gctcaagcca	tccttccacc	tcagcctcct	gagtagctgg	40740
gactgcaggt	gtgcgccacc	acacctagct	aatttttcta	tttttggtag	agatgggttt	40800
ttgccatggt	gcccaggctg	gtctcaaact	cctgagttca	agtgatcatc	ctgcctcaac	40860
ctcccaaagt	gctaggatgt	atagatgtga	gccactgcac	ctaaccaata	tcttgactta	40920
ttttatataa	tttaataatg	attaataaca	caataataat	tattccttac	aaattcctgc	40980
actgaattat	actgcttttg	tgtatattaa	atcatgatat	taaggagtca	aatataatg	41040
catatgagac	tggtatatgg	ttgggttattc	tgaagttact	taaagcagta	catcataaag	41100
taatacatgc	ataagttatt	ctaacttaaa	aatataatta	gacattcatg	tattggcata	41160
gacttttttag	agtaaagtcg	ggtagaatga	gagatatatt	tacaaaaaaa	tcaaaaaaaa	41220
aaaagagtcc	tattcagccc	tgaggtctag	gttccaatca	tttccaggat	acagatattc	41280
aatatacaat	atagttcctg	ctgtgctaaa	agaatagaat	tattggagat	gaccagtatg	41340
tattgttttt	cataatatga	cctctgccag	aaaaactgtg	atcttgcaag	ttttagtacg	41400
tatttggaca	agtcaattca	ttcaatttta	gctgtttctt	cgtgtttctat	aggatcatag	41460
cacactcctc	agttgataac	ctttttttata	tttactttta	aaatagctga	tgaactactc	41520
ataatttttt	aaagtctcca	ggaaaagcca	ttagcagctt	aggggtgatg	ttaagagcac	41580
aggctttgat	gctaggctgg	gattggagtc	ctggctctgt	tcttttctag	ctgtgtcctt	41640
gggcacgtta	actaacctct	ctaagcctga	gacatctctg	aagtaatagg	ggaagagggg	41700
acagaaatag	tatcatagga	ttattttaag	aataaccaag	atactgcatg	taaagttatt	41760
agcacatgcc	tagcacatat	gaaacacttg	atattgttgg	ctgctgctat	tattatggtg	41820
attagcatta	ccaggattat	tattattatt	attttttggg	tgctaaattg	gttacctatt	41880
gctatgtaag	aaactatctt	gagtcacgc	ttaaaacaat	tcagtgtatt	ggctgagtag	41940
atcctctggt	ctttccacct	gagcacatgg	ctgcattttac	ctggagggct	ggcttcatta	42000
aaatgggtcca	tggtggcctc	actcacacgc	tggtgttgg	ctggccatct	caattctcca	42060
tgtgacttct	cacactcata	caataggcta	acctggcttc	cttatatgaa	agtttcaggg	42120
cagtgtaccc	agagagcaaa	gactaatgtg	tgaagtgtcc	agaggattag	actccagaac	42180
tcatcttgtt	ggtcacagca	agtcataggc	tagcccagat	ttgaggagat	aacagactgt	42240
gcctcttaat	gggtgagcag	taaaaaatct	gtgaccatat	tgaatcttct	aaagcagctc	42300
ctctgtcaca	attattttaca	tttcttccac	atgcaaaaaga	aggtcacctc	ttcctcagac	42360
cctcaaaatg	ttcatacagt	gatagcatct	ggctcaaaga	ccagtatctg	aagatctgca	42420
tgtggtctaa	tacagatgag	ggtcttcatt	ttcagctcat	cttgaccac	agacctatga	42480
aaaagacaag	ttatcatcaa	cacatactct	caacatagag	tggcggtgca	gggacaggat	42540
aatcatagca	gatactcatt	caaaaaggat	gagaacagaa	agctcatagc	agtccttggc	42600
catagcaatt	ctgacatgca	gccatttacc	ccactactcc	agggaaatgg	gatgtttctt	42660
gattaaggcc	tgattctgct	ccccaggagt	gggttcccta	gtccattgtt	ctcttttagtt	42720
ccagggtctt	ttaccttccc	tctaagaggg	ctttcctttt	tcataagaaa	tgatctgtat	42780
ctgcagctga	gtggatttct	ttgcatgttt	ctgcccatag	aaatttgggg	cccttttcat	42840
tttgtatttt	tttcagtctc	ttttagacta	agctgaagga	ctgtcttaaa	gactttgtga	42900
gtttacttag	aatctagctg	tcattttactc	aagccccaga	agttatgcct	atatatttta	42960
ttttgagaca	ggctcctctc	ttctttgggc	tgcaagtga	cctgccatca	gaaaactctt	43020
aaatagtttt	taaggctttt	tttttttttg	tagctgaaag	tgtccactag	gctctgccta	43080
aaatctttca	gagatttttg	ctaaaaatct	tacacctaca	cactctgatt	tttgccctaa	43140
ttttatttga	tgactaacia	cttcattttc	caactgagta	ctggggctctg	ctttattgtc	43200
ttaaattctc	cttgtaacca	agtagctcat	tcttttagctg	atcattctct	tcccaaacct	43260
cattgtacac	agctagggga	atccacttgt	ctctcctata	gtctgtctag	agatgtctga	43320
aatctcctca	gccagatgta	caggttcatt	aagtaaaatg	tctttcttcc	aagtcactgc	43380
aggaaatatt	tttgtcaaat	tttccaagggt	tacataatga	aggtactcct	tttctatcct	43440
ctaataagcaa	tttcttttact	cttgtttcag	tctccactaa	caatattatc	accttccttt	43500
caaccaccac	ctaccactca	atcccaaagc	caatgtcaca	tgtttttaggt	ttttggttac	43560
agcagcatat	caatctaatt	actaatttct	gtatcagttg	ttttaagcca	agaatttagt	43620
gacttaaaat	acaactttta	ttgcccacaa	atttgtgggt	tggtaaagtg	gtttttctgt	43680
tggttttgcc	tagtcttatt	tcagctcagg	gtcacctggg	ctggaatatt	caaagtggcc	43740
tcactcatgt	gcctggcagt	tggggatggc	tgttgccctaa	ggcaggttgc	ttttcctccc	43800
tgaagccagt	tatccttcag	gaggctagag	aaacttcctt	tcactgcggt	tccagggtta	43860

catccgaaga	tggcaaacag	acgagctgtg	tgagatccct	tgaggcctgg	gctccagaaa	43920
ttgtagaaat	caattttcttt	acatttttctt	tgtcaaaaaca	agttacaggg	cctgccaga	43980
tatgaggagg	cagagaaatt	ggctccactt	ctgtatagga	gaagctgcaa	agtgtttgtg	44040
gccatattaa	tctgccatag	ttgotatgaa	aacagtttat	aatctgcact	aattggctcc	44100
acactgcaag	gtaattatgc	taatatTTTT	acagacaata	aaccatacct	ttaaagataa	44160
accctttatt	actatgtccc	caaagaagat	accaatcaat	cagttagcca	gtcactctaa	44220
cttacaatcc	aactctcttt	ttaatgatga	aaagttgaat	ttcataaatt	gtagtcttgc	44280
ctctgaggac	cataaggatg	tatcactatt	atatctactg	ttatttctac	tcaattaccc	44340
atccttgaag	aataaatattt	ttattttgtg	gatcccttat	acattgatca	ggccttccct	44400
gtgtggcaac	agcttactgt	agttacctac	ttatttttat	gccttctctt	tcctaggaag	44460
aataaaccac	cccaggaggc	agaattaata	aaaagattca	tatttgaatc	tcttcaacag	44520
cccagtgcct	tgcacatagt	agaggctaaa	taaatatTTA	ctaaattgac	tatgatggcc	44580
cagctcattg	agaaaatatg	tctacattaa	aataattttt	tttttgagac	ggagtctcgc	44640
tctgtctcca	ggctggagtg	cagtgggtgtg	atcttggctc	actgcaacct	ccgcttcccg	44700
ggttcaggca	atttctctgc	ctcagcctcc	tgagtatctg	ggactacagt	cacatgcaac	44760
cacgcccagc	taattttctgt	atTTTTagta	gagatggggg	ttccccatgt	tggccaggat	44820
ggctctcaatg	tcttgatctc	gtgattcgcc	tgccctggcc	tcccaaagtt	ctgggattac	44880
aggtgtgagc	caccgcgccc	ggccctaaaa	taaattttta	tagtgatgac	catattagct	44940
tttgactcta	cagatagcaa	ctatttgtca	aaataaataa	aatgctatta	aatataagat	45000
cttgaagaaa	gatataacag	cagattttgt	atTTTTgactc	ttttaagaa	aggcaatata	45060
gtttcatacc	tacatgcaca	ctcctgatca	tggtgttatc	atagaagaac	aggaaaagaa	45120
acaaaatggt	ggccagggtg	ggtggtcac	gcctgtaatc	ccacaacttt	gggatgctga	45180
ggctggcgga	tcacgaggtc	aggagattga	gaccatcctg	gccaacatgg	tgaaaccctg	45240
tctctattaa	aatccaaaaa	aaaaaaaaaa	aaaaaattag	ccagggtgtg	tggtgggcac	45300
ttgtagtccc	agctactggg	gaagctgagg	cagggtaatc	gcttgatccc	aggagggtga	45360
ggttgacata	gccaaagatc	tgccactgca	ttccagcctg	gcaacagagc	aagactccat	45420
ctcaaaaaaa	aaaagaatg	aaaacggtga	ttttatgggtg	atTTTTataa	aaagattcca	45480
aaaggtttca	ttctgtatgt	gttttaccaa	agttccagaa	aggctagtag	attagtcctc	45540
cctttgttta	ggccacacct	tcacccctga	acatcccaaa	ttagtcaaa	gtctaaattt	45600
cataatagct	ggtgtcccta	aatctaggat	atTTattttat	caatgtcctg	tcatcatcag	45660
ggtgtctggg	agctctgaaa	aaaaaaaaaa	aaaaaacaac	aacaattttt	tgtgtcaaa	45720
ctctactttg	gccaaacttct	cttgggtcaaa	ggtgacagtt	gcttacttct	aaattgatga	45780
acacgtactt	tattttctttt	acatagcaat	cattcactca	tacatctgat	tccaattcct	45840
ttgtgtatat	atgttgacat	atcatcaacc	tattatcatc	atcatgataa	tatagtcatt	45900
gttagcaatt	tattcatcac	tgtagcatc	atgaatataa	ttacagtaat	caaattattt	45960
tgtatatgcc	ttattatata	tggactaaac	ccagcttcca	tataagtaaa	tatttgtgag	46020
tgcttctttg	gggcttatat	actaaaaatc	aaataatagt	cttaaagtgt	gtccaagaga	46080
gctgtgttct	agcctctctc	tctttccagt	gatgtttctc	ttttatatatt	acttaaaaac	46140
aattgattca	tctggattta	ttttaatgta	aggactaaag	tagaaatacc	acattacttt	46200
attaaatggc	tgcacaattg	tcccaatacc	atTTatttgta	taattcacct	tttctttacc	46260
aataggtagt	accatatttt	ttgtaattaa	attcttagat	ggtttatgtc	tatttctgga	46320
ctctccattt	ggttctattg	atcaaattac	ccattcacgt	gctggttttt	cctaggtttt	46380
actattctta	ttgctgtagc	tttttatatg	ctaatactctg	ttagagatat	ttccttctca	46440
ttactcctct	gattcaacttc	tttttcagaa	ttttcatggc	tatttttaaa	aaattgagat	46500
acaaacacat	gccataaaaat	tcacccttta	aaaatatata	attccggggt	ttttagaata	46560
ttcacaagggt	tgtacaacca	tcactgctat	cgaattccag	aacatttttca	ccacctcatt	46620
aagaaaccag	tcactctgca	ttccaccctc	actctagccc	ttggcaacca	tgaatctacc	46680
ttctgtctct	atgaatttgc	ctactcttag	atatctcata	taaataaaaat	cataccatgt	46740
gtcatctttt	gtgactggct	tctttcactt	agcacaatgt	tttcaaagtt	catctatgtt	46800
gtgatgtgaa	tcaaaatgca	ttctatTTTT	tggcctaaca	atattccatt	atatggatat	46860
accacatttt	aaatctgttt	gccaatlgat	gaatatTTtg	attgtttcca	ctttttgcct	46920
attatgaatc	tagcctctca	tttttaattt	atatgttaac	cacttaggtg	aattagacta	46980
ttctctaata	accatcctaa	tgatgtgggt	tgattgtctc	agagtaggag	tgatcttaag	47040
ctattgggtg	aaagggctaa	tgagtgtcag	aaagagtagc	cattattaat	gacataatat	47100
caatactttt	attggcattha	tccagggttt	aaatgcccat	ttataaatcc	acccagcaaa	47160
catatgaggc	cactaaacta	gttagacagg	tgattttag	atTTtagcat	gcataaaaaat	47220
cacctagggc	acttgtttaa	gagcagattt	acttgcctta	ctctagagat	tatgcttttg	47280
atggcttttg	aaccataatt	ttaatagtcc	tgatcccaag	gtacattttc	acctaaactg	47340
cctgctttca	gttcatcaga	attagttaag	atcaggctct	taaaaagaga	tcctacagca	47400
gtgctctgga	aaaggctgtc	acttggcaac	aacttcccta	aaatatttct	ggtgatgtct	47460
ctagcattcc	atataactta	gagctagggc	ttctcagaca	agtgtgaaaa	cactgaagaa	47520

ggatcaaacc	cttatttttc	ttaagtaaac	actgacacta	ccatagggtt	ctggagaaat	47580
cacccatcct	cctactgaag	gggttagcca	cttgtctggt	cccaaactcg	tctgacttta	47640
atttttcata	aagagtgatg	cctttgccat	aatcacgcag	agatctggag	tataaactac	47700
tctctaatac	tctacaaaca	gcattcatcc	aagtgcctaa	ctgtgcatgt	taattgacag	47760
tgtgccaata	ctgtaaccct	gatgcaccac	atttttgttc	ttttaggcca	gagaaggccg	47820
gaccaccatt	gtgatagcac	accgactgtc	tacgggccga	aatgcagatg	tcatcgctgg	47880
gtttgaggat	ggagtaattg	tggagcaagg	aagccacagc	gaactgatga	agaaggaagg	47940
ggtgtacttc	aaacttgtca	acatgcaggt	acttgctttt	caggaatttt	ttctgtctatt	48000
tgctcctcaa	tatagtgttc	tttaaataatt	aaaatatgat	ccagtgaatg	ctatactgag	48060
caagaagaaa	cttcaacaag	atgcctaaaa	gtgtatatct	gagactttta	atcagaatct	48120
gtaaagaggt	agcaggtgag	aaaatagggg	aaagtgccaa	aaacatcatg	gatataattcc	48180
ttaggacaga	ttcctaattg	cctggggaat	gtggtcaaac	taaaagggtcc	tttctaccat	48240
aatgggatgg	tcagagtttt	gggagtcaga	ggacgagaaa	agtgtttcga	cttgtccgag	48300
gagccccggc	tctgagttat	atggaatgcc	agagacttta	ccagaaacat	tttaggggaag	48360
tcattgacaa	gtgaccgcct	tttccagagc	actgctgtag	ggttcctttt	gaccagccag	48420
gatctctagt	ggttgagggg	ggtctcatgt	gatctaaaat	tgtttcccag	atgatcctaa	48480
taagaccatc	atcaagattt	gtggctctag	gaagtgaata	gtttgtcttt	taaaaggaaa	48540
aagcaggcca	ggtgcagtg	ctcatgcctg	taatcccagc	actttgggag	gctgaggtgg	48600
gcagatcacc	tgaggtcagg	agttcgagac	gagcctggcc	aacattgtga	aacccccatc	48660
tctactaaaa	atacaaaaaa	ttagctgggc	atggtgggtg	acgcctgtag	tcccagctac	48720
tttgagggtc	gaggcaggag	aatcgcttga	atccgggagg	tggagattgc	aatgacctga	48780
gactacacca	ctgcaactcca	gcctgagtga	cagagcgaga	ctctgtctca	gagaaaaaag	48840
aaagaaaaga	gcactcattc	attctagttc	ctaaaacagg	ttatattgat	aatgattgggt	48900
ttttcatatt	attaagacat	gttattatac	tcagtcactt	gagcaacatt	gcagaataaa	48960
taacctaaga	atattttatt	ctatgaacga	ttctatttgt	gaaagtatat	acatttgctt	49020
tgatacaact	gtaattagca	tgtacacaca	tatttttgtt	cttttttctt	aacatttcag	49080
atatacgtca	ttcacatact	attattttta	tgggtgctca	gaagttcatt	ttattaatgt	49140
gtgaaattag	tcattttttct	aaagtttagat	atttggtctg	tttccagtat	ttctctattc	49200
taaatattgc	cactgtgagc	acaagtagat	caaaaaaggt	tgtcaaaaatt	ttgccttgct	49260
ttctgacaag	taactcttct	gagccttcgt	ttctacattt	ggaataccaa	acctaccatg	49320
agaggttgct	ataagtttag	aaaaataaac	atctgaatac	ttgtgtacta	aaaacaacct	49380
actgaaatgt	ttaaaagggt	ggattttgtg	atatgttaat	tatatTTTTT	aaaagctggt	49440
tttctttttt	ttttttttaa	aaaaaaaaga	cctgacacaa	attagatgat	gataaatgggt	49500
ggttactaaa	atttgcaaat	tcccccaaat	gaaaatacca	aatgaaatga	cgaaaagtgt	49560
tataactcag	gcttgcatgt	gccagagggg	gttctacagt	ggagggaatc	aatgatagtg	49620
tctctgccga	atgctaccat	atggcctagc	caccataaag	ggtctttgtc	atttcactag	49680
ttaggaatgc	ataaaatgtt	acttttaaato	catttttagtt	ttaatttcat	gagtggttac	49740
caagggtctg	tgatttttgc	cataatgaca	tgttgaatcc	tcaagtgaat	taaccacttg	49800
gctgtcctat	tgccataagc	tcttgtaaga	atgacctctg	cttccatcag	gacttggatt	49860
gggagactgc	taaagagatg	cagacagctc	tgacctttct	atatcaaaatt	ccaagctta	49920
ctttcttagg	aaaagttgta	catttgaaaga	ctgaacagtc	agtggctctg	catgatagaa	49980
atctgtcacc	aactaggcaa	tagcttttag	caagtcatgt	aaccaaattg	ggttttgtta	50040
tctctacttg	ctaaatgagc	aggggcttca	ggtaaagatg	cctctgatat	ttctaccagc	50100
tctggcattc	tgtgattctc	agcccctttg	aatagttcca	cctgggtacc	cccacatttc	50160
ccattttctga	tttgagtttt	gccctcccac	ttacttgggtg	aggctggaga	gatgagggaa	50220
agaccactg	tgagcctgag	agtcagcaga	tgctcaagct	aatgcagtac	tcttttctca	50280
agtttcaaag	accaacctgg	ttttcattca	cccttgtttt	ggtattgttt	ctaacaagta	50340
tcactgcttt	tccattaggt	agactgttgg	ctcttagttg	tttcttttaa	atgtatctta	50400
atttttttct	gattataaag	gtaatgcatt	cttttttaaaa	atcaagcatt	tttttaaaaa	50460
atccaaacat	tacattctag	aaacttgaaa	gtcatcataa	gccaaatccc	tacaaacagc	50520
cactgatagc	tatttcgtat	ttatttttca	tctttgccag	cctaaagagt	taaacagtat	50580
cttcaaattt	aactattttat	aagattgagc	ttatttctac	atttttattg	gccatttata	50640
tttttcttcc	tctgtgaaag	tatttgttcc	tgtattagga	tatttttctg	ttgtgttggt	50700
catgatattc	tcattgattt	gtgagaactc	tttacataaa	aagaaaatac	actcttctct	50760
tgctgtgatt	ggagagattt	ttttttcctg	ctttgttcct	ttcaatttca	ctttgttgta	50820
tttggtgccc	ataaagaagc	tttaaaatgt	atgtaattag	gttgtcagtt	ttttcctcca	50880
tgtcttcagg	atttgaggtt	gttctccgaa	aggatattta	ccccatttcc	tttcagcatt	50940
ttttgttctg	cttttttaca	attaaatctt	tgagacaact	gaagtatacc	tgggtggaag	51000
aaatgagggc	tattgggttt	aaatagatac	tttttaacac	ctgggtgaaa	agtggctatc	51060
ttggcttgga	gctcaatgac	ctttcagctg	aagcacccaa	caccaactga	gtgttttagg	51120
taaggcacag	aaaaaatatt	atgaaagaga	caggtaatgt	tcatttggtc	atagaaggaa	51180

gctaaaaatct	gaatgggctt	attggaagaa	ctgtccattg	agatggacct	cttgatagca	51240
tggatgagat	taccaaaaaga	ggaaaagtgc	tggggaggta	ttcatgagag	gtgggtctgg	51300
ttgacttgcc	atgagctaga	tttttgggga	tccaggcttg	ggcaggtagt	gggaagctgg	51360
ggatgatttt	gagctgccct	ttaggaaaat	aaatctggta	gcagtgtggg	aacagatggc	51420
agtgagaatg	caagggatca	attacaaagt	ctgcagccta	ggttggtttt	tggttgagaga	51480
tgggtataaaa	ctgattoagt	aatgagcaaa	taaggaaatc	caccaagcag	aacatatcac	51540
tgcaatgtgg	ttcaaggcaa	tatataagca	catgggcagt	gttctgtcag	atgttgaaatg	51600
agcaactgga	aaactaagag	atcatgattg	gctattgtat	gtacagtaag	gcactagcca	51660
aaggattggg	ttcagggcag	gtccttgaag	gaggagcaag	aacaagacac	tactacaagg	51720
actaagaccc	tgaacaaact	attaagatgt	gtagttggac	acatcttaat	agtggaggaa	51780
gcaaataagg	aaccagtcca	aagtccaact	ccagcagggc	ttgatgttcc	ctcaccctta	51840
ctaggcagtg	aactagaagt	ccttagatca	gcacccccac	ccccattccc	attaaaaaga	51900
gaactgatct	cacagccagc	aatgaggctg	agcctgcatg	ttgggtctcg	ttgtgtgcat	51960
gagagcagga	ctgtgaggaa	ggaagatgac	catactcagc	cagtcgagga	agacagtttt	52020
acctcccggt	ggtagtgacc	aggccctttg	attcagcttt	tcttggtttg	agctttaaaa	52080
acaagccctt	gttagtggtt	ccatgtagtc	ttcttccctt	tcttggtggc	catgacttgt	52140
tccctggatt	attgcatatt	aagtaaaattc	ctatatacct	tctggattac	gaaaaatgtg	52200
tctttaaaatt	tttagaaaat	attcttatac	tccgattttc	ttattgttca	aattgaattt	52260
aacctttcta	tactttatag	ttttctagct	atccttgatt	gagaagcagt	taggaaatct	52320
gaaaatcttg	atacatgtaa	tattccaaat	tgctttatga	ttctaaactt	ggaggttaca	52380
tccatttgga	gacacacaca	cacacacaca	cacacacaca	cacacacttt	aatgtcttga	52440
tattctttca	gacatcagga	agccagatcc	agtcagaaga	atttgaacta	aatgatgaaa	52500
aggctgccac	tagaatggcc	ccaaatggct	ggaaatctcg	cctatttagg	cattctactc	52560
agaaaaacct	taaaaattca	caaatgtgtc	agaagagcct	tgatgtggaa	accgatggac	52620
ttgtaagttg	tttttcactt	aaattaaagtc	ttttactttg	tagttttgct	acaattattg	52680
aaattcttag	ccttgcaaat	atttttcagg	cacagatgac	tgctactatg	agccatactc	52740
tttgtaaaaga	aaaaaatttt	caaattttaa	atgtatttga	caatgaattg	aatcagtttc	52800
caattataaaa	tgggttttca	agggaaaaaa	aatccagaaa	tgtagtcttt	acgctgagat	52860
gcttaatatatt	aaaattaaat	ttgacattca	tctttgaggt	ccagaggtaa	taagactggg	52920
ccaaaacgag	aggccctgat	atttgcatac	tctattgggt	aggattacat	ttgattatct	52980
atattagga	accagaata	gcatccgitt	aagcaaatta	agagttttta	tttctgtttc	53040
acatgccaaa	atcttagagg	tgaaaaaccc	agggctagaa	cagtagctcc	acagtcccca	53100
tagacacaag	ctcccttcac	ctttatctgc	actaccctgg	catcagggtt	ccatcctcag	53160
ggtcacttat	gatctaaggt	ggctcctgaa	gccctaccta	tcacatctgt	ggccaagca	53220
acaggaagaa	acaaagaggt	tttccagaat	tcccacacaa	tactattact	tataagtcac	53280
tggtcataat	tcgatcacat	ggccatactt	agcaatgagt	atggaaaatt	caattttttt	53340
tttttgctgt	atgcattgac	attctaaatt	agattggaat	tctcttactt	agaaaaagag	53400
gagaatgggt	agaaatagca	acgttggatt	taggagatta	ttactccag	ttacaaata	53460
attttatttta	tttattttatt	tttaatttta	ttttttgaga	cagggctctg	ctgtgttgcc	53520
caggctgaag	tgcatgtgtg	caatcttggc	tactgcaac	ctccacttcc	cgggctcaac	53580
tgattgtccc	acttcagcct	ccttagtagc	cgggactaca	ggtgtgtgcc	accacacctg	53640
gctaattttt	ctgtgctttt	tgtagagacg	aggttttacc	atgttgccca	ggctggaaca	53700
aataattttta	ttatacagag	ggaatccatt	ccaaaaaaaag	atttccttat	ttcaagatat	53760
agttttgata	tattttgatg	ttatttgtaa	atgaagactg	agttttattt	tactcttgtg	53820
ttggcctgag	aaaactaatt	ctaccaataa	tttattgcat	ctgtttttat	ctgtgcatgc	53880
tattactgca	gaaattacaa	ggactctctt	agaggctcta	atcttggtat	atttatagaa	53940
agaagaataa	caattgtacc	attttggagc	gtcattatta	taagtcagat	aagcaatttc	54000
ccctcttttg	gctatgaaat	tatccacttt	tcatttcttc	atttattttg	agagttattt	54060
tgctatctct	ttaaactcca	gtattttata	ggagcacgtc	tcttgaagaa	atgcacagag	54120
aagaggggga	ggcaggaaat	gctgcaatca	acaagattgt	ccaagtacc	atcatagga	54180
gaaaacaaca	tgccaaagga	gagggagaga	ttaagtctga	ttagaggagc	ctgttttgtg	54240
gctgaagagc	agtaaccaaa	gaaaaagatt	cattcattat	gctggagata	gggacttaaa	54300
gataatgtta	actagggagg	aaaaaaaaaa	accctgaaat	acagaaaaaa	tgggtaattt	54360
gaaagaaggc	tcagtagaac	ctacttctat	attctctgtt	ttatagagat	ataaatataa	54420
cctttctcag	tgacctcaag	tttttgggat	tccatagtca	cctctgtctc	aagtttaatg	54480
ttaaactgct	tctatcatca	aaacattctt	tatgagacct	aaatcctgca	tgcttgcca	54540
gacatttaat	taaacatttg	ctgagaatct	tatatgtgcc	aggaattgga	ctactttcta	54600
ggaatataaa	gacataatct	ttaccttaaa	aaaagttaca	tactagaaat	ggaaatatgt	54660
aaacaaaaaa	atcacagaca	agctaagcta	tgaaataaga	gaagtctgca	cagggaaaag	54720
tgtggtaaga	gaaaaggaat	gtaattaatt	tggttttgtg	agttggaaat	atggtacaga	54780
aaaggcaagg	ttttggggtg	aggaggccaa	gcccatgttc	tccagttagt	aatggtttcc	54840

tacatttgca	aagatgttta	tccatctact	cagggtgtatt	gtctcatttg	accagatat	54900
catccctgtt	agagaggcag	gactgtatca	taatatatga	gaaaactgca	gctcggctta	54960
tgtgggtccag	ccatgactgt	cacaccaata	cagtgttgtg	taactccaga	gctggatgcc	55020
aagggtatttg	tgcccagatc	ctgctacctc	gcagtctgct	gaggccagaa	tagggacggg	55080
ctaagcatcc	catgaagggt	atctcttggc	cgaacaaccc	atactcagct	tatgatgtgt	55140
aatcagtaaa	cattgttaac	atgtttataat	atactgtcct	actctctagt	agtttgcttg	55200
tcattctctg	cacctagttt	gcgagtccct	tgagggcaat	ggccatgcct	tttctatgtc	55260
tacagactct	ggtaactggt	gtgtcatcac	cagtttgccc	tgatgtttat	atgttctagg	55320
aagcaaatgt	gccaccagtg	tcctttctga	aggtcctgaa	actgaataaa	acagaatggc	55380
cctactttgt	cgtgggaaca	gtatgtgcca	ttgccaatgg	ggggcttcag	ccggcatttt	55440
cagtcataatt	ctcagagatc	atagcggtaa	gtttgcaaac	accacataac	agcctgaatt	55500
agatcaattc	atcagctgct	gcttctccca	acctcactga	ctggctccat	tctgggatta	55560
agcagcctta	aattaaacta	agccaaagtc	cttaaatccc	ttttgagaaa	agctgtgagg	55620
gaaaagataa	gtagcctttg	aatcactcta	agttatgata	ttaatgaaat	tataaaatgt	55680
aaaatcaatg	aagaaggcat	tctaattgagc	tctcttcatt	tggtgaaact	ggtgtcagac	55740
aatgatcccc	aatctgtttg	tgtagaaaag	ctggtacaag	tcgcacagtg	aggtggagag	55800
agagtggagc	agggaggggt	taaagtcata	gagtttaata	agagtccagg	cactgggtat	55860
agactggcct	caccactcaa	tagctctcgg	tacctcagtt	tcttcatcta	tacaataaat	55920
ctacctcata	acatggctga	ggattaagag	attatatagg	taactatctg	gaaagcattt	55980
aagagtgtgt	gccttgtagt	aagtattcaa	aaagcgatag	ccacccatt	ttagcaatcc	56040
ttccaaggct	tggggagtcc	aagactaaga	aagaaaacat	actagccaat	cattcaatta	56100
attgggggat	atttaaagga	agttatcaca	aatataaagc	ctccatcaat	tccatgaaat	56160
ccagaattca	tattctacaa	tttcagtcaa	gctctaattgt	tattggagag	actttgttgt	56220
tgaggataaa	taattctcca	tcatgttaag	agtttattat	ttttgtgatg	ttggacatcg	56280
atccacaatt	aagaccacaa	gccaaaaaat	aaataaatta	gaaaagatcc	tcctccaaat	56340
cttttaaggt	ttcaaaaaca	agcaagctct	ggctctcttg	caattcaagg	caatgtggac	56400
tatatatttt	ggggcatctg	tctgcctagt	gctgctccag	gcactggaga	tacagtggta	56460
cacaaataaa	ccaagttctg	ccctcaaaca	gcggtttctg	tcggggaaga	catgcaatgg	56520
acaaacaaaa	aaataacccc	acaaacatgt	aacatgttga	gggataacaa	gagtttttaa	56580
agatgggtag	ggtaatagag	aggtgttagc	tgggggtgct	gtttcagata	ggatgctcag	56640
gaaaggcccc	tctgggtgga	agcctgatgg	aatgagaagt	ggagggctgg	gacagggagg	56700
agtcacaggg	agcaagggac	atataggaag	aggaacaaat	gctaaaatgt	gcaaccactc	56760
acagtccata	tgcatgtatgt	caacctatgt	taacaaccat	gcagtcagaa	agtagaatag	56820
agattaccag	gagctgggag	gaggagggaa	tggggagtca	gtgtaatggg	atcaagtttg	56880
ggaagtttgg	gaaggcgaaa	agttctgtag	atggatactg	gtgaagggtg	cacaacaatg	56940
tgactgtact	taacgccact	gaattataca	cttaaaaatg	gttaaaaatg	taaattttgt	57000
gttatgtata	ttttaccaca	attaccaaaa	ccctacatat	ttgaagccta	gttttaacaa	57060
tgtgacactc	aagccactat	ttatgagagg	aatgaagaag	gatcagttat	gtaatccaag	57120
tgggcgtttt	aaatattctt	ttgtagattt	ttggaccagg	cgatgatgca	gtgaagcagc	57180
agaagtgcaa	catattctct	ttgattttct	tatttctggg	aattatttct	ttttttactt	57240
tcttccttca	ggtaggtacc	catgatttgc	ctttctcatc	aagtttataa	tttaattaga	57300
gaaattaaat	taaacctaata	ggagcttcca	aattcttaca	gtgaaataaa	ttgcaaacat	57360
gattggcata	aggctctgct	ggagggtaga	ctccttatca	gggggaagtg	tgacttccct	57420
gtgtcctaac	ttatattaca	ttacaagttt	gccctcagca	gacattcatt	accaaggaca	57480
agagacctca	gtttactgca	gaacataaga	gtaacttaaa	ttcaacaggt	tgggaactgg	57540
gaaagtacag	tccaatagca	ttctcttttc	tgttgttact	ctttatagaa	tatcaagtaa	57600
cttctctgat	cttttcttac	tttaattgat	aactatttga	aagaacataa	tattttgcata	57660
tctaacgttg	tagacctggc	caaaataaac	tagtcaaact	ctctaattgt	acttttctac	57720
ccagttagac	ttctctgtaa	tttcttttgt	ctctttaacc	cagtgggcac	cacatagccc	57780
tttcgaatat	aataacaatcc	atcaagtcag	caaaatagtg	tttcctagtc	atgccagcat	57840
gcttctcttt	tattattgtt	gaaccaatgg	caaagtaaac	caagtttttt	atttagaaat	57900
cattgcccta	ctagacacaa	ctcaatgatt	tgatccagcc	ccagtccctg	gcatgctagg	57960
gagtgcagct	agaaaatgtg	tttcaggggc	cgcaggaaca	gtgggctgat	gcatagaacc	58020
tgtagcaatc	caccagcaaa	tggaggggga	gggcagctctg	gtcctggaca	aggaacacct	58080
ggggccgatt	cactgggtgc	actgatcatc	tatccccctg	gcttagtaaa	cagttctgat	58140
gtgcactccc	ccgtgtgccc	tcggcacggc	tacccaacaa	ctcacactgt	ggctggagac	58200
tcacacgtcc	cagaagtaag	cccacttctg	gatattctgga	ctcctctcca	gtttggatgt	58260
ggtaattaga	aagtaggaaa	ttgtcccaaa	gaggctgggg	aaggaagagt	accctgattg	58320
ttccccaatc	tgagtgcagg	tggagctgtg	accaggaacc	agcataactca	tttggatctt	58380
gttttctaagg	tcatccttcc	tttacactgc	atgagccaaa	atgaattcgt	gtgtaggact	58440
ttgttacttc	tgtatttaac	tggtttattg	gaagtagtag	gaacacactg	aattttgtag	58500

ttaaacacag	tatctttgtc	actgagatgt	tgtccttcaa	agttttgaaa	aataaaccta	58560
tttagaatgg	tttagaagcc	agaactggac	acctttaaga	tttttggcct	ttgattgtaa	58620
tgcatactga	tgattttgca	gtacatgaat	ttgacgtggg	ggctttgaat	tcgtattttg	58680
tcctggactt	ttgttattta	aatagttaac	atacaaataa	tgtaaaatca	atgtgaatat	58740
aggcacctgt	gtcagaatac	tagcaactgt	tacccacaca	acgggcagg	ttgggtcactt	58800
gggtgggttc	aacccaatga	ccacatcaag	gaggatttag	caaaggaatt	ttataacttg	58860
tcacaagtga	gaagctcaca	gagcttagtt	cccaaagcag	tatctcccca	agctggaggc	58920
tgggtcaggt	tttataagcg	tatggtaatg	aagtgtgatc	tgattggatc	ttgcaatgaa	58980
tgatgtccgg	gaagcaccat	ctgactggat	cctgccatgg	gggtggtgtca	gagctcaatc	59040
gtattgaatc	ctgcatcctg	ccatgtgggt	tctgcttctt	aattcagtc	ctgattcttg	59100
tttcggagca	cttaggttcc	tgctatggtt	gcatgcttga	ttcatctggg	gctgctcagg	59160
ttattaacat	gacttgagga	tccgtggcaa	ctgtaaaaca	actcataact	ttgctacata	59220
aaagttgaac	atgattgggt	tggtgcaatt	acatacataa	agatcaaaag	agaccatagc	59280
cttttttctc	aaccagggtt	tcacgttttg	gaaagctggc	gagatcctca	ccagaagact	59340
gcgggtcaatg	gcttttaaa	caatgctaag	acaggtagga	gtgtgcgctg	gagaatgcct	59400
tctgatcttt	cacatttctt	ccatattaag	cttcttactg	ttcttattgt	tatgtcgata	59460
tgcatgtttt	ccccccagg	tattcacgca	aggatggggc	agagtccctg	aaattgtcct	59520
ggtccttcaa	gagctaaaga	cttctcatgt	tttttttgtt	tttttttgt	ttttgttttt	59580
tttcatagaa	ataggcttta	tttgggtagc	tttggcttat	tctgtaaata	tctctctcca	59640
tgtagacact	atcatttcga	agacctgtat	ctcttttctg	gatcctgtgc	aggccctggt	59700
gagtccattg	agactccagg	atgtctttta	accaagaaaa	acctagttag	tagcatttta	59760
tctcatgtac	cacaatctac	catactaact	gtaggatatcc	tcaaagtta	ataattgagt	59820
tttgtttatt	tcttatttga	ggtctatttt	cacattaatt	cacttgtttg	tttattcaaa	59880
cattacttat	catgtaccag	acactgtgct	ggtggctggt	actgtataat	ccattatttg	59940
ctctcctcgt	aagttcacat	tctagtgcct	gacataggaa	aatatgcaaa	catgaattat	60000
ctatttttat	agaaaatgcc	taagagaggg	ccagaatatt	atccattcaa	ttgacaggaa	60060
ctgatttcat	ttctgttcac	aaatgggcac	atagttagga	gtatattctg	attaaatctg	60120
tctacaaatc	ctatttcatg	atctcctaaa	ctcttgcctat	gcaggaaaaa	ttattttatg	60180
tgaaggtaaa	agatgccatg	gatgagtgc	ttacaattaa	aattaagtct	cagacatgct	60240
tcttttttta	tccctgtggc	taactggaga	tcagacacac	tttcaatcag	tgtttaacaa	60300
aaaatcaaac	aaaagcttgg	tgagaaacca	gtgcttattt	tctcctgcct	agaatctatc	60360
agaacaacat	gtccaagaca	gctccaccac	cctttatgag	agacaacacc	atatcagggc	60420
agaagtgtcc	atagtgaag	acctgatgat	tgggtgaatg	gaatgcctac	cagcctccca	60480
gccttgggag	gagctggcaa	ggagcatggc	agccatctgg	gtgagccctg	ccccctaga	60540
ccagagatgc	cctccctgct	accacagagc	agtcagggaag	ctgggttctg	ctagattctg	60600
ggggtgtgtg	ctcagagcaa	ggccagggac	tctacactgc	atatgagggtc	tcccctaaat	60660
ttcctcagca	ttggagcttt	gggaggtctt	gtctggtttt	ctttgcttgt	tttaattttg	60720
aactaacata	aacgtgtatt	ttatgccata	ggacatgagc	tgggtttgatg	accataaaaa	60780
cagtactggt	gcactttcta	caagacttgc	cacagatgct	gcccaggtcc	aaggagtagg	60840
tagactgcac	tctacttgta	gtttttttaca	taacatggtt	ttagataagc	atgtagcata	60900
cccacacttg	ttaagatgct	tccagctaga	aatagcagaa	agctcaaatc	aaaactgctg	60960
taaacaataa	gcagaagatt	aaacttcaag	gttgattgac	ccactgcccc	ctccagattt	61020
aatccagaat	ccaggttccc	tcatgtgctt	tggctttatc	ccaaggctga	ttccctgcag	61080
tcacaggatg	gctgctaata	gtaattagaa	ctacaggctt	ccttatttcc	catccagtga	61140
aagagagcac	acacctctac	ctcaaccacc	aaacaaaaac	cctttgctga	aatctaattt	61200
gggctaattt	gggtcacatg	ccccacctg	aaccactgtc	tccaggggat	gggtgtgttc	61260
tgagtggcct	agctccccc	cccttttagc	tgaggtgggt	tactttgcag	ctcactgctt	61320
ccacacaaca	ggagaaggag	gaatggatgc	agagagctga	ctgcaatggt	gctacagcca	61380
cctttgtttt	ctgagtggta	caacactaat	tcatccttat	atgtgctttg	tggtggatgt	61440
ctcttaggac	acgtaccctt	tgtacaaca	gatggtctct	ttccctttta	cacttttgaa	61500
ttaaatgggtc	tttaaaatta	cccaggtaca	ttggagttag	tttctctttt	gaacattgca	61560
tctatgaaaa	aatacatgca	ccccagtgct	ccatccacaa	agcagagaag	ttgattactt	61620
ggttctagaa	tgttgggtca	gggtgggcagg	agaggaatga	gagtgtaaag	gcacaatgaa	61680
gaaatgtctg	cagagcctca	tgagttaagc	acagggtgtg	tgggtttatt	gtaatgaaag	61740
taagccaatg	tagctcaggc	atagaaccca	ctcatcattc	tgaccaagag	gctaaggctg	61800
gagcgcacat	atgttgagct	taaaactaca	gttgctttgt	gctttttctc	tcccaggcca	61860
caggaaccag	gttggtctta	attgcacaga	atatagctaa	ccttggaact	ggtattatca	61920
tatcatttat	ctacggttgg	cagttaaccc	tattgctatt	agcagttgtt	ccaattattg	61980
ctgtgtcagg	aattgttgaa	atgaaattgt	tggctggaaa	tgccaaaaga	gataaaaaag	62040
aactggaagc	tgctggaaag	gtaggtcaaa	taagatttca	attggtgtta	agtgttgttt	62100
ttagacatgt	gttttatttg	aattatttat	catgatatgc	aggctttaat	aattaaatgt	62160

ttgtgcccac	tacaactaat	aattgtcaat	tgtgtatgaa	atattttact	gtattaatgt	62220
ctagaactta	aatataaggt	gattaacata	aaacgttgag	cctatagaaa	gcacttaaca	62280
tagttatgat	aaagaacttc	tgaatattca	aagtgcattt	cattttactt	catgtccaaa	62340
tgctactgtt	tggaacaaatg	tcatccctgt	ttcacaaacc	ttcatgcaga	agactgtaag	62400
tgaattgttc	agggtcggac	atgtgctggc	atttaagaga	tcctcttctt	tttggctgtg	62460
atttctataa	ttaagatggc	agccaccaga	tggcagtaat	gcctcaattt	tgtggttctc	62520
actataatgg	caattgggct	taacattttac	ttgagcctta	ctacgtgcca	gttattgtgc	62580
tacataattta	tatgcaccaa	tttattacat	cttcacaata	atcctataag	gcaggcacta	62640
ttgttatccc	aatttcagaa	atacagaacc	tgagattcaa	acagaagtta	gagatttggc	62700
tgggatttaa	gttcaggctc	agtttcaaa	ctcttacctc	tactatatgg	tctctttata	62760
tgtgtttaag	tgtctaaatc	tacacataaa	cattttattt	acaagtacat	gcactgaaat	62820
gttcacatgt	agattataac	catgaacatt	ccttagtctta	tttatgtaat	tattatcctt	62880
tattgaaaca	tgaggaagtg	aagcagataa	taaatataaa	ttgtgatata	ggttttatag	62940
cattgcactt	tacaaagccc	ttttacaagc	attactgcaa	ctgaccttaa	ctagttaatga	63000
gaagtggac	agacagtatc	tctataggga	agaaggcgctc	agagactggg	tgagtgacta	63060
gcttcagagg	caccatatta	agaggggaaga	ttaacattcg	gactaaccat	gtttccacta	63120
aaccaattat	gtctggtgaa	atcctttctt	gtcctcttgt	aatcagcatc	agctgccgct	63180
gcatgcagcg	ttaggtataa	tagtatctcc	aggtttccat	cagaattcac	tctcctcatt	63240
ttcacgctgc	atcctctcca	agacttggag	cttgctagga	caatatgtgg	ttcccaggac	63300
ttgggaaccc	ctgggtgtct	agagttcttg	aagattctct	tggctgctgg	ctgtgggtac	63360
tttagggcat	catttccttg	acttctgagt	gtctcaacta	actgctgaag	aaacactgtg	63420
tagctctgtt	tcctcccctg	cccctcaatc	ctgcttcttt	ccacatttca	tatgggagaa	63480
tggtcagttg	gatggaatga	aaataaactt	ttcttagaca	agttacatga	tagaaaacat	63540
cttgaatcta	gttaatagtc	ttagctccat	taattgttag	aattttgtca	gagtagagca	63600
ggtagaattg	agcagtattg	aaacaaaaca	aaatcttggg	ttattagctt	tggctcttgct	63660
attcacagtg	tgtgaggctg	gagaagatcc	ccaacttctc	tagtccctcat	gtcctacctt	63720
agtaaaatga	gaaattgtac	cagatactgc	cccaagttcc	ttccagctaa	aaccctgtta	63780
ttctaagcat	cagagattga	ataactcaga	ctggccagtt	taaatttttt	tagtagctac	63840
tttaacctaa	tagggttatg	aaatatgaaa	gattaaatat	gaaatatgaa	agattttaaa	63900
tatgaaagat	taaaaatgtt	ttaaatgtta	atatcagcag	ttcaatcata	gtttaatatt	63960
gtttactcag	tcagcacttg	cttaagagtc	ggaaagaagg	ttctagaaaa	accccaaatc	64020
actattttaa	aagaaacact	ctcattttacc	tgggtacagt	ttcatcatca	ttaaagtaca	64080
acagggtttg	aggtattccc	atcccaattt	tccaaaaagg	gcttggtagt	gaggggtgtg	64140
gttactgggc	agggagtggg	gaggggaagac	tgcctcataa	ccatcttgac	ccagggtgtg	64200
tctggtcact	gagattaagg	gccctctgtg	ccacagctaa	cccgttaagg	agttgatcca	64260
tgactagaat	gtcaagagga	gtgtcaagtc	attactgggt	tctccttggt	taaattacac	64320
agcaggggta	gcagaatagc	attatggctt	aggaacatgg	actccacatc	agatagtctc	64380
agttggaatt	cttgctttgc	tacttattaa	ctttagaact	taaggcaatt	cagttaactt	64440
ctctgtgcct	cggttctctc	atctgtgtaa	ataggaatac	tatttccctt	tcaaggttgt	64500
gaggctaaat	gagatcatat	tggatgaatga	ggtaataact	ggacatagta	aaagctcagt	64560
aatttttctc	tattcttgtg	attgctatct	gttatatctt	tattacaaat	gaaaaatcta	64620
tggttattca	gtctcaagca	tcacatatct	tcctttcagc	tcattgcaga	agctaagaac	64680
tgaggtaaaa	aaaaaagtct	taaagctggt	aaaaacctaa	aattaagatc	ttatgctcca	64740
tgtgctgttg	gttttagatga	ctcaactaca	gaactaagat	ttagactaaa	tagctaagtc	64800
acagacaatc	aacatttgtc	aagggtgggt	tggctgttaag	aatcagagaa	ctgctctggc	64860
tggtttgggt	aaaagcgatt	tgatataagg	acactccaaa	gtgcaagaaa	tacaggcagt	64920
ttgtgtgtaa	ctggctctta	cagccacagg	ctctaataatc	tgagtcttcc	tatacatcta	64980
ttccattcct	cggatgctgt	atattcagac	cagcttctta	cacataccca	atgtgacatc	65040
agcctctgaa	gccccagggc	ctcacggttc	aaacttgtgt	ccagggccag	gaaaccaa	65100
ctgattgacc	cagattagtc	agatgtctga	ctctgattta	atcacggatt	taaagcatgc	65160
tcatgttggt	gacaattggg	atctccttcc	cattgtgggt	ggacagcttt	tataagaagt	65220
tatactcagg	gaggaaataa	ttggcagctc	caataggccc	ttagaaatca	cagcctaatac	65280
ctttctttta	ggactctgcc	ttgtgaagaa	agccaggcca	caaaggggtt	gtgactaagg	65340
ccagtcatgt	aactgcctgg	tggcaggtg	ggaatagaac	caggcccttg	gttcccaggc	65400
cacagttctt	gcccttagct	gatcagcctt	cctgagcata	caaagacttg	cctaccatac	65460
ttagcacagc	cagaagtacc	agttttgtca	taaagctagt	cttgaacaga	ttatgccttt	65520
ggtttttaat	ttaaaggaaa	ttaaagccta	tcaacgtaac	cttcaggata	cttttgacag	65580
agccctaggg	cttattttttc	attattttcag	aagtgaaaac	accacttcta	atgaaggctc	65640
attctgtgtt	acagattgca	acagaggcaa	tagaaaatat	taggacagtt	gtgtctttga	65700
cccaggaaag	aaaatttgaa	tcaatgtatg	ttgaaaaatt	gtatggacct	tacaggtaat	65760
gaaccatatg	attcctgcta	agaacctagt	gcttttctaa	ggctgaatta	ttgtcccaaa	65820

aagataataa	aagctctgct	gctccaaaca	atgatatgac	tataagggtg	gccttttttc	65880
aacaattctg	tactgaaaa	taagtagctt	tttgatgtga	ctaggacaca	gaattatatt	65940
ttttacatct	tatgcaaaca	acaagaatag	gtctccaaga	cgtaaaagat	atagagaatt	66000
gcacagtctt	tggttatcag	tgcaggcaac	ataaataaacc	tatctgggtg	acttaagaca	66060
aacattcctt	taaggaattg	ctcaaacctt	tctttgcagt	gtgtagactg	aacccaaaagt	66120
gagacttgct	attgggtatg	ttccagagga	aagtatttca	tttgttctct	gaatgaggac	66180
cagatccaac	ctactctgaa	gataaagaaa	cacagactat	ttcagtggtt	tatagttgag	66240
caattcaaga	aactcctaata	ggcaccattt	gccactcatt	tccactgcag	cctgatttta	66300
taaatgagta	tgttttaaca	caaagttgaa	cacaacttag	attacaattt	tgcagactgg	66360
aacagtagtt	ttgaacactt	gcaaatttga	acagatatct	ttgaaagtct	caatttatgc	66420
catctcctca	gttatgcaca	cttcatatga	tactaaataa	catgcagcta	cacctttgtg	66480
tccatttggt	gtttgacata	aaacatgtat	gcaccattaa	tgatgacctg	tttttaactt	66540
caaggagggt	taaggaagaa	tagaaaggtg	aagctaatta	tgaacttggg	tataatttaa	66600
agattcaata	gcttcacaga	atgctcaagt	tttghtaacac	catgttcaca	gcacataagt	66660
taaaccatcc	aaattagtaa	tactttgaat	ttttcctttt	gccaaaaaca	ccctcatatt	66720
tgagagtaac	tcaattatag	ttcttttgga	ggattcagaa	gccataaag	tatagcatga	66780
agtcaaatta	gaaactgtac	aaaaataaatt	atatacaggg	gcggctggca	ggatctagct	66840
tgggaaagga	cttctggtgt	atatctatgt	aaacttcagg	gactcaactt	ttgtgaatct	66900
gaaacatgaa	ttttaacctt	acagagtaca	attagttaca	ggaaacaaca	taatagtagt	66960
aaatcacatt	cagataattc	aaacttaaat	tcagatcctg	acattttagg	tatttttgaa	67020
acaacaacta	tgcttaatat	gagttgaaca	ttggagtcat	cagatattaa	tatgtaataa	67080
tatcagttat	catttgagga	accactatga	actaggcact	gtgctagaca	tttatatggt	67140
ttttgtcaaa	acaattctgc	attacagtga	ttatttccat	ggtataaatg	tttagagaag	67200
ttatcattta	cccaaactaa	tataactgga	ggtggaactt	aaaccctctc	ggccagactt	67260
agaagccgtg	ctctttccac	tacacagcgc	taaaggaggc	tgaagagatg	gttacaagta	67320
tactgatttg	cttttcagga	attctgtgca	gaaggcacac	atctatggaa	ttacttttag	67380
tatctcacia	gcatttatgt	atttttccta	tgccggttgt	tttcgatttg	gtgcatactt	67440
cattgtgaat	ggacatatgc	gcttcagaga	tgttattctg	taagtagctt	tagaaatatt	67500
aagattattc	tataataagg	ttttagtagg	tttatgcaaa	agtttagagt	aggaaaaaaa	67560
tgactcctgt	gtccaaagat	gaggtcaggg	atttaaat	accacagttt	ccatcctggc	67620
aggcacagag	atctgatctt	gttaatactc	caagtgcagt	ttcattttgc	gggtcacaat	67680
taagcttatg	aaaatgatca	gaaagcacag	ttttagttgt	acatatgata	ctgggtcagga	67740
tgatgcaaat	tttctcatta	tagaatatag	gcagaaaaaa	tcataattag	aaagtgtctg	67800
gtgaccatgg	actcaaaaca	gggttatata	gcttactatt	atctacaacc	aaaacatggc	67860
ctggaaaaca	agatgggaat	acttggttga	agtctggcaa	aggcactctc	tccttaacca	67920
ggcctgagat	gagacagccc	tgccaacatt	tgcctctcag	cctctccttt	ttccttggtt	67980
tccaaggcaa	actactggtc	tttctgtttg	atgccttctt	tcataatgtg	ctcagcacat	68040
tccattaggt	tgcaatctgg	gcttgaaaga	gggaagcaac	tcitttttaag	atcatttggt	68100
atgtttctgc	tctggtggga	tgattttaaa	gcagtgggtg	acagccattt	ttgaaacagg	68160
gtcaagacaa	aaaagcgaaa	gtgtgttaag	agctgggttt	tttttttcat	ccaaaattaa	68220
aattaccatg	aaaaaatgta	tctatataat	ctttgtatca	ggatcccagc	aggaaacaaa	68280
tggcacagca	aatgggttaa	ttgatgagtt	tgctaaaggg	tctatttaca	aaggcctgga	68340
aagtgttaag	gtaagcagta	cccaagaagg	aagttaaacac	cccagcaata	cccagctgga	68400
aactgctacc	accctaagcc	taaaggcaag	agaagggaaa	gatagccaga	actcagcata	68460
ggtgctttct	gtggtctttg	atggaggggac	agcaactgca	caagcaatct	gacaagaaaag	68520
aagccaaaga	aacaaatacc	ttggcctcac	tcccttccag	cctccctatc	ctctgctgtg	68580
ccttccattg	gccaaatcct	atgaaaccag	aggacaagaa	aaccttttga	ttcagttcat	68640
gatagttgga	atccccagac	atggagtagg	gggatagaag	gtagagatgg	gtaaaaagt	68700
aggagtgatt	ttggggggaca	aatggaacta	gcagctgggg	attacaactt	agagtacaac	68760
tattttattg	ataaaaaata	ttgagaacat	ttctgaaaagt	gaaaaccgtt	ggaaagtcac	68820
attattcctg	cttccctttt	tttttaaaat	cattgaaatg	ttaaattatg	gaaacctaga	68880
agacagcttt	aggcagtaca	gggaagctat	gcagccacat	gtgggttgtt	catcactatt	68940
ttaaaactta	gtttttggca	actcaccttt	tcgtcaagca	tttaaaaggaa	agttttacta	69000
tacctctcat	cccagcccct	aggtattaaa	acccattttt	aatatcttag	ctttagaaat	69060
ttgaagggtg	aaacttaag	ttctccatta	ttagtagaga	actcccactc	ctttctctgg	69120
ggtagtgtg	gtatcagaag	taaattgctt	tgtgaagttg	tagatctcag	gatcttttag	69180
ccttcctaaa	agttgtcata	atcaatatcc	atctttaaag	agcatataat	tagaaaaatg	69240
aacttttagtt	taagggtgact	tttttttcca	gagtgtgtgc	aatagtattt	tttaacttta	69300
ttttaggttc	aggggtacat	atgcatgttc	gttaatacag	gcaaactcat	gtcatggggg	69360
tttgggtgtac	agaccatgtc	atcacccaga	tactaagcat	aataactgat	agcatagtta	69420
ttttaattgt	aaataaaaag	ctattttctag	taaaagctta	ttttccctaa	taaaaattat	69480

ttacagtgat	gatgattatc	atttgtgtgg	tagtacagaa	gaaaccacaa	actggaagtc	69540
agggccagag	ctttatcaga	aaaagcttac	ttggaactga	tcaaggccct	tacacacttt	69600
gtgcttcaat	tccctcaact	ctaaaaagag	tataaccagc	aactaaaatt	agctgagctc	69660
acagatcaga	ttcagttata	agcctcttct	tgaagtaaaa	aacctttggg	aagtcacagt	69720
agtcctaaga	aattaggggc	tactatgcaa	agggaaagtca	gaaagcaagt	cgagaaaagg	69780
taaaccctca	ggaagtggat	cttggccctc	tcctagattt	ctcttgttac	tagaatttta	69840
tgaaaatgta	tgtcggggag	aaaggggatg	attaaggagt	aaagggaaaa	aatactggta	69900
agcactatac	cttttagactt	tcaaacaatca	tggagttaat	tataaaagct	aatttttgaa	69960
ttcctctact	tctgtctagg	gtgttttctg	caattgtatt	tgggtgcagt	gctctaggac	70020
atgccagttc	atttgctcca	gactatgcta	aagctaagct	gtctgcagcc	cacttattca	70080
tgctgtttga	aagacaacct	ctgattgaca	gctacagtga	agaggggctg	aagcctgtaa	70140
gttctctgat	gcctgatgat	gcttgatcaa	tttttcccta	aggttgctg	tctgctagat	70200
tatagctaca	ggataagttt	gtgatgatta	caccaacatg	tgtttcattt	aatttgtaat	70260
atttatatag	ctaataattt	ggcaacttga	ctgacattta	aaaaattttat	aggtggtttc	70320
aaggatcctg	aagtttagca	catcaaaaata	aaaaaaaaag	ggaaaaccag	atatattaga	70380
actgaatagt	ttccacaaaa	atttagtcat	ttctacataa	aggtataatt	ctgccatgtt	70440
aatgcaatta	gtaatttgac	tttaatcact	ttttataata	gttaagatgt	aattggtaag	70500
aagggcagtt	cgttcacaa	gagagtaata	atcctgtgct	ttattatcta	taaaggtaac	70560
ttaaactcac	atctgagtgt	tctttgtatg	acacaagatg	ctacacgttg	taatatacaa	70620
gcagctgtgt	aggtaaagag	gctaggactt	aacacagtct	ttccaggact	ttcccaggta	70680
tttcatgttc	tgataaaaatt	gctgtgcca	gtgagtgaga	taaagaaagt	gaacttaaga	70740
aactgccagg	gtttgccatc	agggctgccc	actgaaactt	tgggtagaaa	ctgttgctaa	70800
atttccaagc	cttttagagtc	ttttggacac	tggcttgatt	ccagcttcag	aataagcagt	70860
tgggaaagct	aaatgaatat	cttaaagaaa	tcagaaacta	agttagataa	caactcatgg	70920
taatgacttt	ttgtctaate	tcacctatac	ccctatctct	caccttcatt	tcacaccata	70980
ataacttgct	atcaatatta	actggcacca	gaactatacc	aaatatgaat	tttatgtttc	71040
tctactacag	tctttggtaa	agtttccctg	aaataatatt	tcttattcca	ataattatca	71100
ggccaattat	aatagcaaca	tttaaacatt	tattcaggat	aaatttgaag	gaaatataac	71160
atttaatgaa	gtcgtgtcca	actatcccac	ccgagcaaac	gtgccagtgc	ttcaggggct	71220
gagcctggag	gtgaagaaa	gccagacact	agccctgggt	ggcagcagt	gctgtgggaa	71280
gagcacgggt	gtccagctcc	tggagcgggt	ctacgacccc	ttggcgggga	cagtgggtag	71340
cacatttctc	tataacttga	ttgaaggcta	tatttttaatt	ggcccaacca	atattgtcat	71400
aatggaaaat	attggacaaa	tgtagaccta	gaatcctgtt	tgatacaatg	accacattct	71460
ataaacccca	actggcacca	tatctgggaa	atatatgggg	acaataggac	agaatgtctg	71520
gaattcagtc	tagctcagaa	aatactgaat	ataagtttaa	tttttaccct	gtcatggggc	71580
tttccagtc	gtctgattgt	tctaagcaaa	tactgactta	ctggcttata	aaggtgaact	71640
acagactcct	gccc aaattc	aaagctgact	tccaaaacag	ggtgctacct	gcttattgcc	71700
tccccaccgc	tttcagtttt	getgccttct	cttaccttga	attctcggct	ctcgaacttt	71760
gactttgatc	ctcaacctcc	agccctttca	tatttggtct	ttgtcattga	ttttctagca	71820
tgtagccccg	tggctctctt	ccttgagtga	agaccaactc	ttactgataa	tgcttgtatc	71880
tgccataaacc	ttgggacagc	acccatgaca	gagccctggg	agcctgtccc	cattagacag	71940
tcaccaaagt	gttaagcctt	gtttctttta	ttaatagttg	ttaagcctaa	atcagccttg	72000
ttaagcctaa	tttagttggt	tctctctgga	aatcttctgc	tttgcattta	tagctattct	72060
gcaggtaaaca	taggcaaaacc	agctcaccaa	aactctgtaa	atatggtgtg	ctgatacgat	72120
ggtgggaatt	tttttcttta	ttgagatcaa	gactagctgg	acttgtgtct	attcctttgc	72180
ctgtaagctt	taccttacac	gaggctgtat	tttcaagtac	atattacaac	acttccctag	72240
gagcaccatg	cctcctgcct	atagcaagta	aaacaaaaac	aaaaccatca	ctgccagcaa	72300
aaataatcct	cccaaagaca	ctgccctttg	taacttgttc	cttttccatg	ggattccttg	72360
ccttagtgct	atcagagagg	tgagggaag	ttaaggctag	tagttttcag	ggaaaagaga	72420
ggtagaggta	ggaccagagt	caaccagctt	ttggggccct	gcttctgatc	agctttttca	72480
ctgctgtgca	tgggggaagg	ggaaatcaag	tcaaggtgaa	gggttaggat	tattctgggg	72540
acagcagacc	tgagtgggac	accttgatgc	aggcttcttt	aacgcagagt	aggacacaga	72600
tggctggagg	agggcagaca	aggacaaaga	gaagtgtgaa	aaaagagggt	caaagtgtgt	72660
accattttgc	cagtttagacc	aagataggga	tggcttaatc	accataaaaa	tcatcatgtt	72720
ggccatgctg	gcctcaatgg	tataagtctt	ggagggttgt	tgttttgaag	ctgctgacac	72780
cctcatgcaa	cgatcctcca	aatggacaat	ctagtaactt	tttagttttt	ttttcttttt	72840
tatacccttc	ttatagtttg	tggacttttg	ttttcagctt	ctcgatgggtc	aagaagcaaa	72900
gaaactcaat	gtccagtggc	tcagagctca	actcggaatc	gtgtctcagg	agcctatcct	72960
atttgactgc	agcattgccg	agaatattgc	ctatggagac	aacagccggg	ttgtatcaca	73020
ggatgaaatt	gtgagtgcag	ccaaagctgc	caacatacat	cctttcatcg	agacgttacc	73080
ccacgtaagt	taaagagtag	ctgaaatcag	aagagactac	tttttatccc	ccaaacaatt	73140

accaaagtta	tgccaacaaa	atcttgtaac	aaaatatgtt	gatttactaa	cattaacaac	73200
ttggacaagg	cacttcagga	taccaagctt	ccttatttgt	aaatgggaat	acattatgcc	73260
tacctatac	aaatgtagtg	agaagctcaa	aaccaccata	cttcagggtta	cagactgggtg	73320
gttgagggct	gcatttagac	tgcagtcatg	tttggtttag	ccctatggta	cttttaaaac	73380
aattatagtt	tttattttga	gataattatg	gattttacatg	taattgtaag	gaatacagag	73440
atcttatgta	ccctttacct	agttttctgcc	aatgacaata	tcttgcaaaa	ctagtataca	73500
gtatcacaag	caggatactg	atattgatac	actccactca	tcttattcag	acttcccttg	73560
ttttacttgc	attcattttgc	atatggattt	agttctgtgc	agctgtattg	cagatgggga	73620
ttcatagatc	cactaattaa	gaacactggc	caggcacggg	ggctcacacc	tgtaatctca	73680
gcactttggg	aggccaaggt	gggtggatta	cgaggtcagg	agattgagac	catcctggcc	73740
aacatggtga	aaccctgtct	ctactaaaaa	cacaaaaatc	aaccaggcgt	cgtggtgggc	73800
acctgtagtt	gcagctactc	aggaggctga	ggcgggagaa	tcgcctgaac	ctgagaaacg	73860
gaggttaaag	tgatccaaga	tcacaccatt	gcactccagc	ctgggcgaca	gagtgaactc	73920
ccgtctcaaa	aaaaaaaaaa	aaaagataca	gaacattctc	atctccataa	agatccctca	73980
tattgccctt	ttagagccat	gcataatatcc	cttccctcca	ccctcattcc	tctcaaactc	74040
tggcaaacat	gaatctgttc	tccgtttgta	taattttata	ttttaaaaat	gtttttataaa	74100
aatatataca	gtatgtaaac	ttttgggatt	aacttttgtc	tttcagctaa	ttccctgaag	74160
ttgtgtgtat	tcatagggcat	tgttttttat	tactgagtga	tattccacag	tgtggatgta	74220
ccacagttta	accattcacc	tgttgaagga	tagctgggtt	atttccctgtt	tctggctatt	74280
gcaaataaag	ctgctgtaaa	tacttgtata	caggtttctg	tatgaattca	agttttttatt	74340
tctttgggat	aaacaccag	gagtagaatt	gtggagcagt	atggcaattt	catgttttagt	74400
ttataagcca	ctgctaaact	gttttccaga	gtggccatcc	cattttacat	tcctaccagc	74460
aatgtgtaag	tgatgtagtt	tctctgaatc	tttgccagca	tttactgttg	tcattagttt	74520
ttattttttac	cactctgata	agagtgtagt	gatacatcac	tgtggcttta	atatgcattt	74580
cccaatggca	aatgatgttg	aacatagttt	tttatatgct	tatttaccat	ctatatatcc	74640
tcttggtgaa	atgtctccat	gttgtttgcc	catattctaa	ttggattttt	atcttttact	74700
gctgagtttt	cagaagtttt	ttttgtttgt	ttgtttaaca	tattgtaatt	actgttggat	74760
atgtagtttg	taaatgtttt	ctcccagctc	gtagcttggt	tattcatcct	ataagaagg	74820
ctttgcagag	caaaagtttt	actttttagt	aggccaatt	taccaattct	tccttttatg	74880
gattatgctt	tcagtgtcaa	gtctaagaac	tcgttgccca	gccctaggcc	caaaatatatt	74940
tctccatgtt	tttttctaaa	agttttatag	ctttacattt	taaatttcag	tcctatgatcc	75000
attttttagtt	cacttttaaac	atgtgtagcc	ctggaaggat	ggcttgagg	ccctaaaagt	75060
gatggtaggg	acaattcatt	ttatggcatt	cttccagcat	tcgggggtcc	actgggttac	75120
actgacgtag	agcttaatta	tttttgcctt	tattttctgc	tatagttaga	aatcactcac	75180
accacaaaat	aaaattttta	aaccctttca	ttttgggttag	ccttaccac	ctttaatgca	75240
cattgacctg	aatcaaatat	tggatttgac	tgtgaataga	aaaatttaca	gcttcagctc	75300
ttaatataag	tgaccactgg	accttaggaa	attaattcac	atgatataca	tcactgcata	75360
agccctgcaa	actgaactga	ctcaatttac	atctctattc	atatgctctt	tctcagccta	75420
gaatgctctc	tcaaaatcta	gctcccaaaa	cttctctaaa	aagatttctt	tcattttattt	75480
cccctttttt	ctcctttctac	cctgtctcca	taacaacttc	tatctccttc	ttctgatctt	75540
tcatagtgtg	ctgtgtatac	tactacagtc	ctgtgttaca	taacaacatt	ttggtcaatg	75600
acagactgcg	tataccacag	tggttcccat	aagattataa	tggaaactgaa	aaattcctat	75660
tgcctagtga	catagctgtc	ataatatcat	agtgaacac	aaaattcaag	tattttgtgg	75720
gatgctggca	taacaaagcg	actgcaactgc	cagttgtata	agagtatagc	acatactact	75780
atgtacagtg	cataatactt	gataatgaca	acaaatgact	tattgattca	tatatccgtt	75840
atagcatttg	ttatttttaga	gtatcctcct	cctattttta	agaaagttaa	ttataagata	75900
gcctatttga	gaataccatt	gagaattaaa	gtcactagtt	ttctagtttg	attttgaaaa	75960
taaacactct	gttaagttga	aacaacgtta	tagaaactgt	tattgactct	aaatgttttt	76020
cttgtaataa	gaactgtcaa	ctgttaagca	acagttcatt	caacataatt	ataatttggt	76080
taacttgcag	aaatatgaaa	caagagtggg	agataagggg	actcagctct	caggaggcca	76140
aaaacagagg	attgctattg	cccgagccct	catcagacaa	cctcaaatcc	tcctgttggg	76200
tgaagctaca	tcagctctgg	atactgaaag	tgaagagggtg	tgtgtggcct	cccaacttat	76260
gtcttatttt	atttatgaaa	tagaagggat	tttgctgtca	accatgaaaa	aaacacacac	76320
aagcacaggg	ggaaaaacac	agaacgttag	atagtgggtt	ttattttttat	ttttttgaga	76380
cggggctctg	ttgttgccca	ggctgtagtg	cagtggcgca	atccagctca	ctgcaacctc	76440
tgcctccagg	gttcaagcga	ttctcttgcc	tcaacctcct	gagttagctgg	gactacaggt	76500
gcctgccact	atgccagct	aatttttgta	tttttagtag	agacagggtt	tcattatggt	76560
ggccaggctg	gtctcgaatc	ctgaccttgt	gatccgcctg	cctcggcctc	ccaaagtgct	76620
gggattacag	gcgtgagcca	ccttgcccgg	ctgatagtgg	ttattttgaa	gtaatggaat	76680
attttattct	aaattttcta	aaatgattat	atattttata	aagtaaagca	ttcaaaagaa	76740
aaaagctgca	caaattacat	tttttagcaca	ttaggaatga	aaaactggaa	aataactcaaa	76800

```

agggaactag ttaaacagaa gattagaaaa tttaaatact tatgaatttt ttacagcat 76860
gggaacccat ttgtgttata tttaaaaagc agaacataac tatgttagatt aaatgttgat 76920
tatacaaaat acacatgcat aaagttcaaa gattcctaaga tactagaaat taaaagttga 76980
ttagaaaggt aacatttttca aattttacttg aatgttaaaa ctaattttata caattttttgg 77040
gataaggtgt ctgtctgatt tatcaatagg ttgtccaaga agccctggac aaagccagag 77100
aaggccgcac ctgcattgtg attgctcacc' gcctgtccac catccagaat gcagacttaa 77160
tagtgggtgt tcagaatggg agagtcaagg agcatggcac gcatcagcag ctgctggcac 77220
agaaaggcat ctatttttca atggtcagtg tccaggctgg gacacagaac ttatgaactt 77280
ttgctacagt atatttttaa aataaattca aattattcta ccatttttatc tgacttgtaa 77340
aataagttt                                     77349

```

<210> 74

<211> 36779

<212> DNA

<213> Homo sapiens

<400> 74

```

ccgcagctga cgcaggcggt tcggaaggcg gaagctgccc cgctccgacc gctcagtcag 60
cgccgcggcg cctacacctg gggccccgac gcgcgggcaa aggcgcacgg cccgggggcg 120
ccgagggggc ggtccccgct gggggcctcc aggcgtccct gagcaacgat cccttccaag 180
tacctccccg cactctccct tccctcctgg ccgaagctc ccgagggcgg ggggttggtgt 240
ggggccctgg ttcttctacg ccgccttgag catcccgctg cccccaacct cttccaagtt 300
cctcctcgca ctacccctc cccagcaacg tgaaggggag gggcgtgccc agggtgagca 360
cgccctctca tgaatattaa taagcgcgca tgcgccctgc ccggcgtgct gggtagaggt 420
ggccagcccc ggcgctgct gccagacggg ctctccgggt ccttctccga gagccgggcg 480
ggcagcgctc attgtgttac ctgcggccgg cccgcgagct aggtggttt tttttttct 540
ccctccctc ccccttttt ccatgcagct gatctaaaag ggaataaaag gctgcgcata 600
atcataataa taaaagaagg ggagcgcgag agaaggaaag aaagccggga ggtggaagag 660
gaggggggag gtctcaaaga agcgtacaga ataataaaag gaggcgggcg tctttgcctt 720
ctggaacggg ccgctcttga aagggtttt gaaaagtggg gttgttttcc agtcgtgcat 780
gctccaatcg gcgaggtata ttagagccgg gacgcggcgg ccgcaggggc agcggcgacg 840
gcagcaccgg cggcagcacc agcgcgaaca gcagcggcgg cgtcccgagt gcccgcgcg 900
cgcggcgcag cgatgcgttc ccacggacg cgcggccggg ccgggcgccc cctaagcctc 960
ctgctcgccc tgctctgtgc cctgcgagcc aaggtaggag cccttctccg ggcctccctc 1020
ccagccgtcc tctccctccc ctgcggcgcc cctgggcggg tgagccccgc gagcaggtc 1080
ggcagccctc gagcgcgccg ctctcgccc ctgcgccga gcggtgcac ctgggctgag 1140
cgcgccaact ccccccaggg agccctgccc tctgagggg gacccctcca ggccggacag 1200
gggcgcgttc gctccgtgtg tgcccccggg gaagtcgtcg gatttcttcc gactcgtgc 1260
atttttttt ttttttgccc cggaatcatg ttgagtcctt gaacgtagtt tcgcaaaatt 1320
attttcactc ggcgaggagg gctcgtcggg gcggggagtg ggagggagtc gccaccteta 1380
tactcgaaga aaacagcttt ctcccgcgct gacctacctc cttccctcgc cggcaggtgt 1440
gtggggcctc gggtcagttc gagttggaga tccgtccat gcagaacgtg aacggggagc 1500
tgagaacggg gaactgctgc ggcggcgccc ggaaccggg agaccgcaag tgcaccgcg 1560
acgagtgtga cacatacttc aaagtgtgcc tcaaggagta tcagtcccgc gtcacggccg 1620
gggggccctg cagcttcggc tcagggtcca cgctgtcat cgggggcaac accttcaacc 1680
tcaaggccag ccgcggcaac gaccgcaacc gcctcgtgct gcctttcagt ttcgcctggc 1740
cggtagtgga ctactcgga aggaggccgg gcggagcctc acaccgcgc ctggccgagc 1800
cctgttatcc cttgcgagag ggattttaaag ggctttggct tgaaactagg cgctaactgg 1860
ggaaatctct aggggtggcg ggtgaggag ccgggacact atagttagat ctcggtggg 1920
gtagtcgagg tgggtcccat tctgtctgct atttgcttag tgcacaaaag tggggatccc 1980
agagggttta tgggaccagg ctctaggaa ggccggtgta aacttgcaac ttgaagttcc 2040
cagagtaact ctcccgccc caagccaaga gatcgttgta gctgatctct ttgcttaact 2100
aattaaacct ggtgcgcgct ggaaggcgac tggcgcgagt tctggcctgc gaacgcgctc 2160
caaattggca acctccctt tcccgtaac ggccgggagg gcgggtgtgt ccttccctgga 2220
gggtgtgggg gagtccgttt cccgctgctc ccggggagat ttagtggtgt gcggggggcg 2280
tctccaggtt cggcttaagg gccggggggc gccgcgcag gaggaggttc ttggggccct 2340
cacaggagct gtagacctgg gaacccccgc ccgctgctgg ccccttccctg ccccgcccc 2400
cgagtgggtg agctcttggt gcctcacttc cagcgggttc cgggctctgg aacagctgtg 2460
tttgcagact tccccgggaa gggcgggtgc acggcccccg caagccttcg ggggccgtgc 2520

```

caaggcttgg	aaggggtggt	cttctggagg	tagtgcctga	gggtgtaagt	gataggccct	2580
catccccccg	ccccattccg	cccccaaagg	agctcgaggc	ccggggccag	ctggcagatc	2640
ctgcagcgag	gcccttgcaa	catccccaaa	tgggtggaag	gaagatgggt	gcgattgcag	2700
aaggggagga	aagggaaatg	ttgggggtgt	gccctctgcc	tggctcctgc	tgtccaggag	2760
gcatgactca	ttgccaagac	tggggcttgg	cctagcctgt	gctgggaggg	tgggtggtga	2820
gagggggagc	tgggtgcccc	agagcattgc	tttccaccac	gtgctctaata	ggggtgcaact	2880
ctgctgcctc	ctgtccgcgc	gcttaggttg	tgattctggg	aggagacaga	ggggagacta	2940
tctggctgtg	tctgtgtatg	aagcttgggg	tggctcttaa	aatccacgat	tacaggagct	3000
ggcattataa	agtgccctct	gctgtgggtg	agataagaca	gttatcaaaa	actgccatga	3060
aaaggggttt	ataaaaagaa	aaattaaaac	caacgctgtc	tgtgaagctc	tcttgaggtc	3120
caagggctgt	ttctgttgtg	ggatttcatt	tttaccaga	gtatttatct	tgtttgttaa	3180
tccctatta	gggagaactt	taagctaaag	agtctggctg	cgtttaaatc	tggctggccc	3240
aagctgactg	tgaatactca	aactgccctt	gaacgtgtgt	ttggagttaa	gggggaaggg	3300
gctgcaggt	ggttccaccc	tctgcgcgga	ggatctgtct	ggagcccctc	gcttttcaca	3360
agaccataaa	aggaatctta	ttagtgtatg	ggaaaagcag	cagcctggct	gaggctcatt	3420
ttggagagta	gggtcagagg	gatggctaac	atgaaaacaa	ggaggcttgc	tccctcgctg	3480
gccaaaggaaa	agtgccttag	aaaagtgcgt	ctgtccgctt	ttgacacttg	gtcagagtcc	3540
tcaatggaaa	acgagcggaa	atagtgtggg	agggtaggag	aggcgattga	tttgcatttg	3600
ctgggtgctct	tctgtgggtt	caggccccac	gggtcaccaa	ccatgaaata	gactctcggc	3660
ttttctcgaa	tgggggaaga	ccgatggggc	accactgaaa	atgtggttct	tttgaagttg	3720
ggacaaacgc	atgtatcact	cataaacaag	tctccaccct	gatgcccag	aaaggcctgc	3780
tgtgaaacat	aagatttaat	tctcaagaga	aattggagtt	taggtgtatt	tgtttttctg	3840
tatgtggttg	gagaaacggc	acagtccgta	actttcaaga	atgattccag	gctgagtaga	3900
aacgtaactg	aaacacttaa	gtagctgagc	gagtatttaa	ctagagggca	cagcttcatt	3960
tagtttgga	attaactatg	tcttttaaaa	ctgatttcct	tgaatgggaa	ataaatgaac	4020
ttagtacaga	attcaagaga	tagcaagaaa	aggatataatg	gttaaaaaaca	aaacaaaact	4080
ccaaaccacc	ttgggctccc	aacccttagc	aggcacaatt	accatttgca	tgagtcctcc	4140
caaatttgct	gacgttgggt	atcagcaaaag	gggtcagggg	taggtcagtg	tagaagggtca	4200
tgtagtccat	gctttttgtt	tggaaattatg	acccctatcc	aagcaactgt	tcatgttcta	4260
gagaggacga	ggaggaaaacg	atgtggtcag	atatgaaata	cagtcctatgt	tctggtgtgc	4320
atgtgaaagg	ctttgtagag	gtggcccttc	ctgtcatata	tcatactga	gtatgtccca	4380
cgtggtgtcc	cctgcccccg	ctctggtctt	ggggtagttt	ttcaccactg	gcttctaatt	4440
ctcactactgt	tgtgtctcta	aggggcttaa	cttgacgcaa	ctatctggat	taatgattct	4500
caaattgggg	gaccaagtga	taagaaccat	tattgtggga	agtaattggg	cttaacagga	4560
aataatttag	gaattaccac	ttataaatca	ctgaaacggt	taatctgtac	ctcccaaaat	4620
tagtgctaaa	tcccagtagt	gcctgcttat	taaaaataca	ttagtgtaat	taccactact	4680
catctccaaa	agcttttttg	gaacttcaga	acccagttta	gctgtattgc	tgcacgggtg	4740
gccccagagt	gaaatgaatc	tagagaaaacg	ttaggggaag	aaattggggg	atctggctta	4800
ttagcctcat	atttaaattc	cattgatcct	attaaaagac	ttgctgagat	caactttttt	4860
tttttttttt	tttttttttt	tttttttttt	tttttgaaa	atccaatgaa	acgtgattct	4920
tctgtgtgag	ggatgccagc	tttggccccc	ttcatgcttc	aggcctgaat	gaccaattgc	4980
cacgatgcta	atcacagaat	gtaattgaca	ggcccttact	tttatgcctt	ttgctgtctt	5040
ttccagttcc	tgagcttctg	tagatatggt	gtgggcacat	ggagggctta	aggatggggg	5100
tctgatttga	cctgcctctc	ttctgcagcc	aggatttgca	tcctgcccgt	gtagtgcaga	5160
tgtatacaaa	gaaagagcat	gtgtgtacgt	atgtgctcag	agcaagggac	tttctgcatg	5220
tggagaaaac	gccttttgcc	ctaagaagtc	tacctcaaac	caaagggatg	aagtgatgta	5280
tctgtgttgc	aacactgggc	ttgggggaaa	gtgaagctgt	gcttgctttg	aaagagctgt	5340
gctaagtatc	tgcagaatag	ctgctccaaa	aatggaatct	ttattccagg	tacttggttt	5400
ctaatttttt	tttctcttgc	aggtgttaacc	ttctgtgttt	tctttctcct	tgttgtcttg	5460
tttcttagca	acttattcaa	acctccagta	cttataggaa	tttgcaaccc	accagttcca	5520
caccogtaat	tctacaggga	cttaagatgt	ttttagaaaa	cggtgaaact	ttggcgtgga	5580
ggctcttggg	ggagtccagt	gggttaaaaag	gagagtcagc	agcaacttac	aggcatgcaa	5640
cctcccagaa	aatcagcaat	ctaagtgcgt	ctcaaaatct	tcacaccaaa	tagtggtgcc	5700
tttggggacc	ttttagatag	aagacgtgga	aagtttagca	tggagaaaaa	agttacttaa	5760
aaaaaaaaaa	acagtgtcaa	ggtaacaagg	agccttcaca	gttcctgatc	tgaaaacagg	5820
aatgtgaacc	agaggccttg	gctggattca	tatcacccac	tggcccccatt	gtagaagggc	5880
cagaagtggg	tcccaatgtc	cggctttcaa	ggttagtgac	aatgtaagaa	tgcattgatct	5940
ctggatgtgc	atacaattag	cggtgtaatc	cataaatgca	aatactcctg	caaattcttc	6000
catggtaaac	ttctgtaagg	catgttgctc	ttccacctac	ccccatcctt	caagcctagg	6060
atctaggctg	ctgagagaag	tgactcttgg	cttcagcttt	taaatatata	tatatctctc	6120
aaaacttaat	cttttcttcc	aactgttgga	agatacattg	ggatgaatgg	aaagtgggtga	6180

ttctaaaatg	gtggtggaag	tggaggagg	tcctgggttc	agaaaaatcc	cacctttact	6240
ttggtgcatg	gcactgggtg	gctgtgttgt	gacttctttg	ctgatttctg	attaccgcac	6300
ggaccacagc	agccctgtga	ctgctgtttt	tttttttttt	tttttttttt	atggtgccag	6360
tgacatctac	cattggtgca	gtgctgtgtc	tgggaagaaa	ttccgcaagg	tggctcccag	6420
tagttaaagg	agtacataaa	tagtcaaaca	tgcagagtcc	tctaccagct	caaccaggtt	6480
tttatgcact	tttggtaaa	aaacagaaa	gcttcttgtt	caggcttgct	ctgtgtgaac	6540
cagaccgttg	tgcttggctg	gcttcttgtt	attctatcta	ttaacctcgc	cacccttttg	6600
taactgggtg	atttaattat	cagtgggatg	cttttcaaac	aggtaagggt	aatgatggga	6660
aaggggggtg	ggatgtctca	ttgagagtca	caaactctga	tatgagcttt	ggggccccct	6720
ggtgagcctt	tgagtgggct	ttgatgagaa	aatcaccctt	tgtaaccaga	tcggactcta	6780
ttgacatgtc	aagccctaca	gacttgattg	ctttctgtgc	ctgaagtctt	agcctagatg	6840
ctataggata	gttgtccttt	cttatctcac	tttcccaaaa	cccactcgca	ttgtgtgcat	6900
gagtacgtgt	gcatgcgcca	cacatggact	ccctgcaacc	ttttctgctt	aatatgtttt	6960
gtgactggaa	tattttatac	tctggccacc	cagacacagg	caggacaata	gagttggccg	7020
aattgactga	aatgaggatt	atggagaata	atagggcctc	tccaaaaata	atgctaacac	7080
aggacaagcg	acaggaagca	acagttgagt	cagcagagct	cagggcccct	gacgaacctt	7140
gggagccgac	tgactgtgca	caatggccgc	gttggcacgt	cgggcattcc	caggatgtgc	7200
gtgccgccgg	cgggcctgcc	tgtcgcagca	gcctgggggt	ttggacgccg	cacgcgtgcc	7260
gtttggatgg	cgggttattt	gtgtccgtca	gcttggcagg	aggggaggca	gccgcttctc	7320
agggcttggt	ttggctgtca	ctgttgccag	gaaaaggaa	ctcccggctg	ccaacacaat	7380
tacctitgtt	tcttacatcc	ccccttctta	atgtggcaat	taagtgtcta	ccgctctgcc	7440
cagtgccaa	gtaaccgcca	tggagtggga	cagggcagag	aacacaacct	tggcacagca	7500
gcctaagtgt	ggagggcggg	aggaggtgca	ggggccccag	ccttgctggg	aacctggtgg	7560
cccttggtatg	ccttggggct	ttgatgccag	gactctcttc	taggtagaat	tccacagaaa	7620
tcttccaaaa	agcaattccg	aaggctgacc	attcctcttt	gatgccacac	cagaatggga	7680
accagctgcc	aggtttccag	atttcttgtg	gcttggagct	gggaaggggc	tgaagtgtct	7740
cactttgcaa	atccagacta	aagatctgtt	tgtaaccctt	ccttctgtgt	tggccttcac	7800
agtactgttc	tggaaaacat	aaggaaagat	gaaagccagg	tgactcttcg	gcagagtctt	7860
agttctgtag	tctgaaatca	agaaaaaccc	aggatattgc	ttttgttgtt	gttgttttgc	7920
tgtataaaact	taagtttgaa	cacttgccct	tccaagccct	cctgggatgg	aggactccgc	7980
ctctactggg	ggtcagagtt	gcagtggctg	cttgtatgtg	acttcggcat	agtggatttg	8040
ctgctctgtg	gcctggtecc	tgctttgatg	tggggtgcat	gatctgggat	ctcagtgcct	8100
gggtgtatgt	tcagggatgt	acagaggtca	agtgtgggcc	tgggaaaaat	taaagtcttc	8160
tagcaactaa	taatcattgt	taaattatct	tgattgtctg	tctatagtgt	ggggatggag	8220
tgggagggtg	agtgcctcct	aataggaacc	ttggagggaa	tcctttttct	ctgtagggtc	8280
gggcaggagg	aatcctcctg	cccaggaga	ccctaattcc	ctccctgaaa	cagacaggaa	8340
aaaaagttcca	ggctttgttg	ccgtcactgt	agctccctgc	cctcacctcg	tctctgcctc	8400
tgagaaaagaa	gggcagttca	tggaaaatca	cagagccagg	cacgtagggc	tgtgtgcaat	8460
tcttttctct	ccaggtgggg	tgatgtcggg	cagcaacttc	tgaggttttc	ccagttcttg	8520
cgaggatgag	cctggttagac	tgcttggctg	tccaagttct	tgtgcaagac	ctaaggatgc	8580
tttctctctt	gagtattaaa	ctgagttagt	actgccatgc	cagctcagtc	ccggcacctt	8640
cccttgacgt	ggggtttgtg	ggtattatgt	gttttagcgt	tgtgcaagtc	tgtcaaaact	8700
cctggatata	atgcatttaa	tcagaggatt	aattacaaca	atactgttga	agtggaggac	8760
gtgggcctca	acgtgaccac	caaataaggg	gcttaattat	acagaatcag	ccacacatct	8820
ggcctcattt	tgactgtgct	cttacctcaa	atcagttagag	aaatataatt	tcttgctgct	8880
cttaggggaag	agtcctgtaa	tttgaggaa	gtcctaagaa	acttaaagag	gcagtaaata	8940
aggatataact	ttcgctaata	aaatagtaac	aacagcaatg	aatttggaac	tgtggccact	9000
aacaggagag	ggctgggtat	gtgccctggc	ttgcccgggt	ttgcttgctt	ttctgagcat	9060
tttccacacag	ttatcagtga	acgaaatgga	atcctactct	gctttgagta	tgaaacatat	9120
ttcggttgaa	ttccaaggca	gggtctatca	caagatattt	ttatattcag	agatgacctg	9180
ctgtgtcact	ctgagagcgc	taagctggcc	ttgagttatg	aatgaaactc	ccttttacc	9240
tccttttttc	tctttttcct	ttatcttata	ggtgctttct	cttctcttgg	cagcagtggtg	9300
cttctggtgg	cacagcacgg	tattatttaa	tctatacacg	cttctatttc	ctatggcttg	9360
gtttctgaca	cagcaaagca	gggattcata	acctagttca	tgttccttgt	ctacccacc	9420
tgcccttgagt	acatttcttc	agtgccaa	tagcagaagc	ttcattttaa	cgctgggtgt	9480
ttgtgagact	gaccttactg	taaattacga	aggaaaattt	tagaaaagga	gggaatttgc	9540
taatagctta	ggtttggctg	ggggtgggga	ggtggaattc	tgagataagc	ttggaagata	9600
aaagggtgct	tcagtttaac	agctggcatc	ttgccagtat	ccagggaatt	tgtttagtta	9660
gtagactctg	attattcttg	gaatgttaga	tcttattaac	agataagttc	atcaataaat	9720
ataacccatg	ggtgtgcggg	tgtttctccc	tttgtacttt	cttccctggg	atctgcccc	9780
aactccaccg	cccaagttag	gttgacttct	ttgtcttgca	gagtcacttt	gcatctacc	9840

```

cctcctgttt cctagagtta cccgatactt gtgggagcca ggatggtctc acatagacag 9900
agttttcaaa ggggttctaa aaaggaaaag ggggcctccc tagagactgc ctcaccaggg 9960
cccaaagtgt aaccttagca ataccccctc ggtacaaata cctggttagg ttagcttaga 10020
ataaattctt tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtt tcctcatgca 10080
ctagggtcag ggtctggaaa gttttgggaa actatatgct aaatactctc atatcatata 10140
gtgaggtggc atttctgat ctcaactttg agctgcctgc atgcatgttg actccagtgc 10200
gtccctgcc ggtgaaagga gtcatttgtc aacctgggaa gagtgtgac aaaggaaggg 10260
gagttggttt ggatttaaac atccaggaac tcaatgcaac aaccaacaga atttttattt 10320
tggcattatg gttttgtttg gtggggtatt ctgggaggcc aagaatgtac gagattttgg 10380
aaagtcgacc ctgtttctga attgctaaat tgtttgtttg tcttgcagag gtcctatacg 10440
ttgcttgtgg aggcgtggga ttccagtaat gacaccgttc gtaagtatcg cttctgtgga 10500
cttttctcta aacacacgtg gaagtgtggg gcttggccaa ccagttggag ctggatctgt 10560
ctccttagta cttagcattt ctgccacctc ttgccttctg ttctcccctg taccacaggg 10620
tgaaccttca gtggaatgta ttcttaact tttctaggat ttttgccttg aatattaagt 10680
ggccagaaca gaatccagt taactcattc cctgattatg aaacctagat tatcttcggg 10740
atagagatct taatggtttt acaactttta aacctttag tctgtctaaag gatcaaagta 10800
gtgacttttt aaaagtccat ttaactttta agtgagtgtt taatctctca tcagaaagat 10860
aaagccataa aggtggtgct gggctctaga gaccgacctt gaatttctact tgggtgggcag 10920
gtgagcttct agtctctccg ggtttccac actgctccac aaacctttca ttgaagcgca 10980
attccagagc ttccagcca ttacctgcct tgtcccttcc tgaaagatgg ctctgttttc 11040
agtgcagggt gcctttcagg actgaggggt tggttttggt ggataagcca tggaggatgt 11100
gattgaaatg acatagtctg gcttaciaaag tagtcttgct ctttaattgt aactttacag 11160
tgttttcgct cagagccga aacttcaagt tccctttttg ccagcagagt ttgggttgcg 11220
gtcgttgaa aacttgatgc tcaactgaaat ctcttggtct gtgcatgagg aagagtggat 11280
ccagcttctt gtcttggtc tctgttctct gaatgccttg tactttttgc ttttctatct 11340
taccattttt ttttgtttgc tttcactgtg aataatata tttcatctt ccttgccctg 11400
cttttttttg ctgacagaaa atggtgaatg cacaccgtgg gtgcagtga ggcttggatc 11460
ctgctacgtg ggcagcttcc acctgtggct ggcttattgg gctacttgga gccacagaat 11520
cattgtctgag ctccagatgtg ccagagagtc ccaggccatt tgggtcactc ttctagcttg 11580
ggaatcttaa gtccagcttt ttggatgtca tccctccctg agggggagct catgaaagtc 11640
caaggttcga gtcttccctc ccagagggct acctgtaat gccgtggggg ggtgtgtgtg 11700
ggggtggcag ggaagctctg tcagcccttg ctatggctga tgccagtcag ggtcatagac 11760
acctgtttgt tctccctcc ctgccacaaa cgttgaggac tgtgaacatt atgtcactgt 11820
gacctgttta caatggtaac taagcgtag gcagaagggg ttgaggaggg gggagacata 11880
ggctcttctg taatagtatg gtgtcgacat ggtgttctt cccctccctt ttagctattg 11940
aaacaatcca ccggttagag tgaacagctt gaggttgatc ctggcctgtg ataagagcca 12000
ggtcagtata cttgttaggg acatgtgaga gacctccccg ccacactgca gcattcacag 12060
cacctttcct ggacctcctg tcacctcgca ggtcagggag ttatgtcccc tgggaaccca 12120
gggcttgtcc agagctaccc acagttgtct gcatttccag gtacccgat tttggggttc 12180
taggatgttt catctcctgg ggggtaatc aaatccctgg aagaggacaa gaaagactga 12240
ggttaggaata agttctttt aaacctcaag ggtgccatt gcaggttatc aaaactcact 12300
tgggtgaacc tgaagaggga gatgggttt gtggaatgg tttctccact tgcctatttg 12360
gcctctttta tgatgcttcc aaggaatctt gaattcagca cagtcaaac caaactcagg 12420
atcttctctt gccaaaagca gtcccttccc agggccctt ctgggtgtct ggcaccgata 12480
tttgaacact cattgccata agccagaaat atagaaggcg atctgtgtac cccctctctg 12540
ttagcatcca tacctagtcc acctccaagt tctgaaaaat ctctccagct cttcacttga 12600
atctgcctgc cttctgccac tgccctggtc caagtcacca tctgtcatg actgaactta 12660
gagtagcctt cgtctgggtc acctttatct gctctgactc acctctagtg ctttctccat 12720
tcttctgcca tctgtgtctt ttccagagcca taacatttgc ttgtcaccct tattatgaaa 12780
aaccaaccac ttggtggcct tctgttgcct ttgggacaga tcttcatgtg gccacaagg 12840
ctctgtgcag ccagctttg tctccctgcc agccttgtct tacacaccgt gttgtccatc 12900
gtatctgtag cctggccata ccctagcagt tgccttccct tcctcaacta catcacatgc 12960
tttctggcct caggaccttt gcacatgctg tttatgtctac ttggagtgtt ttgttcttt 13020
cttccacctc agccactccc tctggactgc actccacagg gcagaagctg aggatgttca 13080
gaagcccaaa cggagtggc tgccctgtgg gacccaagcg agttgtaaac attctggctt 13140
cagatgtaaa tcaaaggcag agccctgagt tttagggcag agaattcctt ctatcagctc 13200
tgcagtgagc cctcacaggc agactcgggc ccaaatatag cctaggtgct gtttatgtat 13260
ttgaaagtat ttaaggctgg tcttctgtc atcggtcctc caaagtcttt tattacattt 13320
tgggactgtg gtatatagag ttccaaattt ctttctcccc tagagcaaat ggtttcagtt 13380
tactgtaatg cataataaac atgtaaacat aaataggcac acttcagacc aggttttccc 13440
tgtagcttag ctttctcggc taaggccccc ttccaggttt ttgggtcggg gtggtcccag 13500

```

gttatgctca	gactcgccct	tcatcacctc	ctccttggcc	tgcgaggcgg	tcatggcttc	13560
ttcgtgactc	atcttcgtgg	cactggggat	tgcaggagg	catggtgatg	tccttttcca	13620
gtcacaaggc	tggactgcca	aacgaactgc	cacagattcc	tttccagtcg	cccaagctga	13680
aggaaagcgt	gatcaggaag	caggcagcag	acgtatttga	accagacat	gctcgacccc	13740
ctccctgagc	agggtgtgaaa	ttatgtatgc	agctccatag	ctccactgag	gattctgaag	13800
tgatcctctg	cacgacactt	cccggaaata	agtggaaagc	ttactgcatg	actgaaaagt	13860
acatatcagt	cctgcacccc	taggattgcc	ctggactcct	gtctaaactg	tttgttgttg	13920
ataccagcct	cagaagctgg	atgcctttaa	gccatggcta	gtgtgtttaa	ccgatccctt	13980
ttatgaagat	cttgtgaagc	cgtggtaata	gccactatg	ctttttaact	gaaccagcag	14040
agcaaacata	gttaatggag	agacatTTTT	gtcattcctt	ggcctctgtt	tatttgcaaa	14100
aacgagtaaa	gtgttacctg	cctgcaagt	gttcagtgcg	tgccgggggtg	tcaggctgca	14160
ggatgtgag	cttgttcaag	gcttgtcttg	cccacgcagc	agtttgagag	ccctagaggg	14220
cgaacgctgg	ggccctgttg	gaagcgggtg	gtggatgaag	ccaccagga	gtcccttctc	14280
tcctggctac	ttatagggct	tgcatactt	tttaaaggag	cactggcccc	aggcctagaa	14340
aaacagccat	gtgggtgggt	agaatcaca	aagacattgc	aagtcagtcc	taactgtctc	14400
tccaagatgg	tcttgaattt	gacaaggtga	tgaagagtgt	gtgctggcag	gtttaagaaa	14460
acaaacacaa	aaccagggtg	gggtgctgat	ttagtgcctt	gctgcctttt	cagatccctc	14520
ccctgaactg	ctggcacctg	atgtttgagc	tatttttgta	cctgtctctt	ctcaaactag	14580
atgataagtg	gcctcagggc	agggactaca	tactcctgag	agctgcttga	gctcgagggtg	14640
tttattatcc	tcagtaagca	ttttttttca	ggagcatgac	ttggctcaaa	aaaaacaaaa	14700
gaaaaaagaa	accctcccct	caatttacct	gtgtctaaac	tttgggtgaat	tattctccca	14760
tctgccttct	gggcagagga	gaaaggtgga	atgcatcaag	ttcaaggctct	tggatatttaa	14820
gagctggcct	taaaggttgc	catgttaaca	attgtaaaaa	aaaaaaaaaa	aaaaaaaaaa	14880
aaagtaactt	aatcgtctcc	ttggcttcca	gttaagagtt	ttgaaatgga	caaaaagctt	14940
ttctgagcaa	gacataaaac	cctaaaacca	gaaatgattg	ctgaccttta	tctggaataa	15000
tgaaatttct	tcaagagcaa	cattccatag	ggagctactg	tctctcatat	gtaaagagca	15060
cttgcaagtc	agtatggcaa	tgtaatagaa	agcttggcag	agaagagaag	ctgttgcgtg	15120
tcacaggaac	aaatataaat	ggttttgtaa	ctaccagaaa	gggctcttgc	catcacttag	15180
ttaaatgcta	attaaatgag	atacctcttt	acctatcagg	catagattag	aagggtttgat	15240
aatgtacaac	gttggcagtg	ttattgggaa	acacagcttc	ctgggtgggtg	ggaggacaga	15300
ctggtagttt	gagactgtgg	acagaggttg	atttgtttgt	cacggactct	gattcagcac	15360
ttccatttct	agagtatctc	attgtgggaa	ccatacacag	gcagatacgt	tcaaggaaatg	15420
ctcactgtgg	ctttgtttta	tagtaagaag	cccaaacgac	tcacatgcac	acatgtcagg	15480
gactaggtaa	attattttatt	ggtgtttcca	gacaatgaaa	tactgtgtac	ccattaaaga	15540
aggtaaacaa	gtggtaacag	gttgtctctg	ggtaggggca	taaacttttc	atttctttgc	15600
ctttttttaca	acagatagaa	ttttgtagca	ggtgcatatg	tttttatttt	aaaaagccaa	15660
aatggtcagg	gaagaaggct	gcaatgtgaa	tattaacatg	attcatcact	ttgtctctag	15720
aacctgacag	tattattgaa	aaggcttctc	actcgggcat	gatcaacccc	agccggcagt	15780
ggcagacgct	gaagcagaac	acgggcgttg	cccactttga	gtatcagatc	cgcgtgacct	15840
gtgatgacta	ctactatggc	tttggctgca	ataagttctg	ccgccccaga	gatgacttct	15900
ttggacacta	tgccctgtgac	cagaatggca	acaaaacttg	catggaaggc	tggatggggc	15960
ccgaatgtaa	cagaggtatg	tgtgtgtgtg	tgcattgtgca	cgtgtgcctg	ttgcttttag	16020
tgtccattta	tcaccccacc	agcaggcagg	tggcatgcgg	ctatctcagg	tggggtggga	16080
ttttggctgt	tattctgggc	ctgcagtatg	aagatgcgga	gtgtagaaga	tgctgttggg	16140
gccccatcca	gatccccctt	actggcatcc	ccatccccca	ggtgctgtgt	tggctgccaa	16200
cagctcacag	ctgctccttc	tcaggagact	cgtccttggc	caaaccagt	catgccccat	16260
tcctccagct	cacagtcagt	gattgacaga	catagggcta	caaagcccag	cttcctttgc	16320
cttaaaacag	tagtacaatt	tgcactctag	agcttaccct	gggattaggc	tgaatcaga	16380
ctccagttga	gacctgttgc	ttgctcagct	ctttccccta	ccccatctgc	ttccctcaat	16440
tccttctacc	tatgtccaga	tccccttctc	agactctgct	tctaaggaa	ttgacccaaa	16500
atagatccag	acaggactag	gtcagcccag	ttgttgtctg	aacaggctat	cctataggaa	16560
atgatagccc	ctgcattcag	ggtagccttg	cagcaagttt	tcactagggtg	tctttggggg	16620
catggctttg	atggggagag	gtatgtgggt	agctcaagct	ttcctattgg	tgtaggagt	16680
ggcccacttt	tagtctctgt	gctgtctact	gtcccagctc	ctttatagaa	ttcagtgatt	16740
ccaattcata	gcaacttgat	gggtaattct	gttaactgta	taatatcccc	tcatgagcaa	16800
taatgtactc	tgtttatttt	acatgataat	taggtaaaat	gttttgatag	actcaatttc	16860
aaagtgaagt	tttcaaccat	gagagagggg	tgggtcatgg	gggaaggaa	ttacagctct	16920
ccgggtagt	actactgctt	tcttaataaa	ttggagagaa	gagtttaaaa	aggatggcat	16980
ttctggaatt	caaatgaaaa	ggggaattca	ttaacatatt	ttagtgtgtt	ttaaaaatta	17040
aacgacctaa	cacttagtgt	gggttttttg	tttgggtgtt	tttttttttt	ttaagataag	17100
gtgctcactt	tgtcacccat	gatggcacia	tcattggctca	ctggagcctt	gaactcctgg	17160

gttcaagtga	tcctcctgcc	tcagcctccc	aagtagctgg	gactataggc	acatgccacc	17220
acaccagct	tttttatttt	gtgtagacat	agtcttgcta	tggtgttgag	gctgggtctcg	17280
aactcctggc	ctcaagctat	ccttctgcct	caatctccca	aagtgttggg	attataggca	17340
tggggcactg	ttgcctggtc	ttagaaactg	acatttttta	gaagtactt	ttttcttttt	17400
tttaaacgaa	gtagagaatt	gctctgcaag	gatactttat	aaaagtctca	ccagatctgg	17460
ccaccagatt	agcctgcccc	atgagtcacg	cctggctggc	tctgttagtc	ccatggaatt	17520
ttcaaaccag	gcatttggtg	tgggtgtgtt	tttttttttt	tttttttttt	aaaggctgag	17580
gctcatctga	atgtgtcctg	gtgggatggg	gaaggattat	ctataccttt	ttttcttcta	17640
atgaaaaggg	tgtgggcaga	atggaaactg	accaagctct	gctcaaggag	ccagggtagc	17700
tgtggtttag	agaggctgga	cgaaggctccc	ccttcctctg	tcaacttgct	tgcattttgt	17760
cccaaacaa	tatcatgttt	tcagaatctg	ctaacaaggc	cttgaagttt	aaagctgggt	17820
ttgttatttg	ggccctccc	atcttctct	ccttacaagg	gacttgatat	gagacctgtt	17880
aaaatcgtgg	aatttgcaga	ctttaatgca	atgggcatc	ctcatgaccg	ggcgatgca	17940
aggaacaggc	agtgtgctga	cacgcccctc	tctgtttttt	acagctattt	gccgacaagg	18000
ctgcagtcct	aagcatgggt	cttgcaaaact	cccaggtgac	tgcaggtaaa	tcaactggct	18060
ttttgtgaga	tttcttttaa	ttttccttta	tgtaaagag	gaactgactt	tattgtgact	18120
atgcctcttt	tttctttgga	gaacaagaaa	gcttttttaa	aaaaaaaaatt	cagatagaca	18180
catccgaagc	ttattaaatt	ataccagctg	tctggtggaa	tgcacacacc	acttctctct	18240
tggaataaaa	agaaactctt	tgggcatagc	cagtgacttc	atgtattaac	tggtctgtaa	18300
attgataaca	catttttata	atcttccctt	atagtgtctg	tgggctagat	ggagggtatg	18360
gggcttggtt	ctttgcgtct	ctctcctctt	ccaccaaggc	tttcttctcc	cagccccctc	18420
ccgactttt	cccatcaata	ggcgaaagtc	cagcattctt	tagaatggga	ttagtccaat	18480
ctcctggccc	ctttgcaggc	gggagctggg	ttggtgctga	gaggttaatg	gctgccctgg	18540
aatcttgtca	gttgagcctg	atgaatgtag	acttttgctg	cagtcctttg	aagtctgttc	18600
ctttatggtc	caggaacaat	gcggaagcca	aaggagggcc	tgccctgacc	acttcacgat	18660
ggcgggtttt	ggaacttctt	gaaatttata	ttacgcccg	ttggaaaagg	cttattttgg	18720
gaaatattgt	tgggtgtctgt	ggtgtttttg	gcagtcttaa	tgctttgctc	tccctcctcc	18780
caaattttta	ggagtaacgc	taaattggatc	ctttgagcct	gtcacttttg	ccccaaagc	18840
tactctgaca	tgagtaaagg	gaatcttatg	aaacatagtc	taaaccagta	tgtcccaaac	18900
taatgttatt	tggggctctt	attaaaacgc	aggctcctgat	tctataggct	tgggctgagc	18960
ccaggtttct	gcatttctaa	caagctccca	agcgatgctg	ctgatggaac	catcagcaat	19020
cactgcccc	agacctcagt	actcaaagtg	taacttccag	aattaacaag	ggagctgtta	19080
aaatgcagg	tcggtgggtc	cgtcccacat	ccatagaatc	ctagtccttg	gtttggccca	19140
ggagtctgca	tttgacaagc	tggccacatg	actttgctgc	ttagtaaaatt	ttgaggctac	19200
tcctttaaag	agaactatct	gtggccttta	cctttatgat	tccaccgctc	cgtctgttcc	19260
cctcccatgc	aagggggaac	atggaaacta	attaagaact	ggttggtccc	aattgtctct	19320
tcctacactt	cagaaagata	gtttatttcc	tggaaaggctg	aggggcttct	cctgctgtct	19380
cccattgggtg	gcgatggact	gtagtattta	acagcattgc	tgtccaatgc	ggagcaggaa	19440
tccacctacc	ttaaactctt	ctaattaagg	gtgttctgga	gaaagtccca	atggcagtcg	19500
tattagtgat	tccaagcctg	ctgcctgctc	agatggatat	cagcggaggc	cgactgtgat	19560
ttgtgctgct	gtcatcagaa	cacacatata	gctatacagg	ggagggccct	cccagccaga	19620
acaacaggct	ttgtttccag	aatttagccc	tttctctttc	gaagtccac	ctccctctcc	19680
ctgcccagac	acgcaactgat	ggccttattt	acttaagggtg	cgactttccc	acacatcatt	19740
tgcatagtct	cccagcccag	ttttccctcc	ctaccttgaa	agaaagtcaa	aacagaacct	19800
tcacgctgag	gaagttcagg	ttgtgtcctg	ctgcagaaat	agttgaatgg	caagttacct	19860
gcaagttgtc	ttttggatta	tgtattacac	aggttatttt	ttttttcacc	cccacatgag	19920
aaaatttact	ggtttttgtt	gttcccaagt	agactgagtc	cctttccctg	ggtatacatg	19980
cttgcttatt	gcaagcctgc	caataatata	aaacttaatt	atgaatcatc	atctgaggaa	20040
agtcacttca	atcttctcatg	agaatcttaa	tcatatatta	ttaaactggg	ataacttggt	20100
tgggtgctct	tttaggggtca	gtatttttat	ttgttttctt	ttgaagtcac	ccatggcctc	20160
ttgtgggtgc	ttttttatgc	ttggggattg	aggctctctt	aattaggtga	ggttgggtcc	20220
tcagctgcct	ctccttgctt	ttatgaggca	acttgaagag	ggctagtgat	cctgaatttg	20280
gaagagaata	agggaagacg	gtgagaatat	tgccatttcg	taatcagttc	cctcttacta	20340
tctttcaggc	taagaatatc	agccttgaca	gaatggctac	acccttacct	cccactaacg	20400
tgggtgtccg	cttttgagaa	attattttaga	ttgtaatttt	gttcttatct	tactccttta	20460
gtcacttgct	acgttgacat	tccattttac	ataaaccaga	atccagtgtc	taactttaaa	20520
ccacacattc	tagtgatttc	tttgcatgtg	ggtgtgcata	gcttgggttc	agaagttagg	20580
aagtggttag	tcagtattct	caggggttaa	gttgactctc	agccgtgggt	gattagctat	20640
tagctagatc	cctataattt	tcccatgaca	aggatttgct	agcctgcctc	ccgctcttgg	20700
gaaaccgaaa	gcctttcctt	ctggggagct	agagggggcg	ggggttggtt	tccagagtta	20760
cagctgagca	gcttaggggg	ttggcgctga	tcgtggcttt	tccagggtcc	cgttctggaa	20820

acatgtttgcc	catccccacc	gcacccacc	ctccaccctc	caccctccac	gctccaccgg	20880
gaggctagtt	gatgtttctc	cctgccttcc	cccacccttg	ttaaagcttg	gctcttgaga	20940
aggcaattaa	agtttcagag	ggcttgaaaa	ttcaagggag	agtgggttga	gacgctgccc	21000
cctctccccc	cccagatgaa	agttgtttga	tttgtttttg	tttttgcttg	gggatcagag	21060
gcactatattg	gccccaaaag	agtatgatta	atcaagggtgc	ttatataaaa	gaacctcaac	21120
tccgccaaata	ctagataaat	taagcagact	gcttttctttt	ttttttctttt	tcttggcaaa	21180
gcaagaaatc	actataaatt	agcacacagt	aatgggacac	aaattatgga	gttggttcca	21240
agtgttgtca	tttccttctc	cttccctata	gaagtgggtt	tagagagcct	actctggctt	21300
tggccaaggg	aggggtcccc	tttctctcct	tgttttttta	aataaagcgt	catcgtgagg	21360
cagtttctctg	ctgcacttgg	tggcttgttg	catttctgtg	caactgggtc	atgactttct	21420
gtgcagacaa	agagcagagt	ggcaagtga	gcgtctgcag	agactttggc	atagctctct	21480
tgtcacogag	agagtccctt	cctctatagt	ctgtcgcaac	taggtgcacg	ggttgattta	21540
ttccatgcct	tcacctttgg	ctcactcggt	tgagccttag	aagagagtgg	ctttgtgaag	21600
ggcatcccca	tgttggcctc	ttcccaaaca	gccctccttt	tgtcaggagt	cggctgggag	21660
gggacctcag	ctcaactgtg	aaaatgtttg	tttatacggg	gcccctgatg	agccttggga	21720
gtctaccttc	ctgtccccag	aaacaaaaca	gaaaaagcct	ggactttgca	gtcttccatt	21780
tgaattgtac	aggtgtctct	taacgttcaa	aaggctaacc	tggaggtgtg	ctgtgtgtct	21840
ccaggtgcca	gtacggctgg	caaggcctgt	actgtgataa	gtgcatccca	caccgggat	21900
gcgtccacgg	catctgtaat	gagccctggc	agtgcctctg	tgagaccaac	tggggcggcc	21960
agctctgtga	caaaggtatg	gcccttaggg	atgagacca	gggtgggatc	tgggggtggg	22020
atggcactaa	tttgggtttct	aattttattg	gcaggggctt	ttattctgaa	ttctccttga	22080
atgctgtgtg	ggttttcttg	tttttctttt	taaaagacga	ctggggctag	aaacatggtg	22140
ggttcgccat	cttcacaggc	gtctcttagt	gactccagga	tctttttggc	agatctcaat	22200
tactgtggga	ctcatcagcc	gtgtctcaac	gggggaactt	gtagcaacac	aggccctgac	22260
aaatatcagt	gttccctgcc	tgaggggtat	tcaggaccca	actgtgaaat	tggtaagtgg	22320
tccaagatga	atgagagccc	tttgtcta	ttttctgtac	tcagctttta	aaaaatatac	22380
ttaaggactt	gtttaaggaa	aaaaaagtga	aaatagcttc	caaagatagg	ccttatccca	22440
accattctat	aagcctttgt	aactttcaag	tctctaaagt	tttttgggtg	atgctgattc	22500
gtataggagg	cagcgggaga	tgaatgacc	ccagctctga	gatgtcttgg	aatgtggtta	22560
gagacagctc	agcgagaaag	atgacttctt	tcttttccca	gacacagcag	ggttctatca	22620
cacgcttgct	tttgggtttt	gaaatatgct	tgcactagt	gctgtggtgt	gggattcggg	22680
tggagggggg	tgtggggagg	taacggtgtg	caggcatccc	tctctgactg	ccatcctggt	22740
ttttgcagct	gagcaogcct	gcctctctga	tccctgtcac	aacagaggca	gctgtaaggga	22800
gacctccctg	ggctttgagt	gtgagtgttc	cccaggctgg	accggcccca	catgctctac	22860
aagtaagtcc	aattttcagc	ctgtgtccat	tctaaggatc	cttgtgccaa	gataccacgc	22920
tggggagagg	tacctaggct	tgtccagtgt	gaatgtctcg	gtgagagagg	ggcgggtgca	22980
ggcctaagtc	tggtaagcag	tctgggtggc	tgtgtgtttg	gaagtctccc	agcaccacca	23040
tcctgtccca	ctaaggtagc	gcattgtatct	gttcttggaa	ggaacgtcct	cgtggaatcg	23100
cttgttccct	tgcattctgt	tcctggagct	ggccaccctc	caattgtggt	tattcttctt	23160
gcagccatgg	agaggctgcc	ttcaggggag	gttgtcactt	actactggat	tctgtcatag	23220
ggccaggggg	ccccagagaa	gaacctggcc	tgcagagttc	ctttggctgt	gagacagggc	23280
tgtatatcag	aatcacctgg	gctgctttac	agtgtaaatc	tctgggtccc	ccagattccc	23340
tccagaatcg	gggagtccat	ggtctttgat	aaacttcttg	aattctgcag	tgcagccagg	23400
tctgagaacc	gctgtcatca	gcacccaggg	tgtgggttatg	gatgtggatt	tctgggggtca	23460
gattgcctgt	gctggtccta	ggccccacc	tgtcacttgc	ggaactccag	caggccacag	23520
aagctccccc	ggcctctttt	aaatggcaca	gtagcaattc	ccatctccga	ggttgcata	23580
aagacaataa	agtgaatact	tcataaattg	ttaggagtgtg	tctctggtca	gagcagaagt	23640
ggagaatgca	gcctctaggt	gtgctatattt	gggcaaaactc	tgtaaagcaa	tgagaggaa	23700
aagggttttcc	acctgtaaaag	aactattttt	cctgacttct	tagctacttc	tgagccatga	23760
tgaacttttt	ctttaaaaat	aaagattagg	cagatagaga	tgtcctgtgt	tcctcctggg	23820
cggatgctcc	gtcagtatcc	agctgtcttt	ctccccact	gcttaggttg	gggattacat	23880
gaactggggc	agtgggggat	ttaaagctaa	aatcaaggct	tcggccttat	cgtcaccgtc	23940
ccacttgtcc	tgtgttagct	ttcctttagt	cagggtgtctg	gctcttcaat	gacagccct	24000
catgtaagag	gtgatgttaa	aggatctaat	tgtcagatgg	attgaattaa	attgtcaacc	24060
ccctcctttt	cttgttgacc	agacattgat	gactgttctc	ctaataactg	ttcccacggg	24120
ggcactgcc	aggacctggg	taacggattt	aagtgtgtgt	gccccccaca	gtggactggg	24180
aaaacgtgcc	agttaggtaa	gaacatccct	gtgactgtaa	tttttatacc	aagggtggct	24240
ttgattgtca	aagccattac	agaagacgag	cgtgtggccg	gcagtgtgag	ttcacactcc	24300
atcatgctaa	gaagtaattt	attatcaaga	gtctagcagg	cctgggagaa	ataacttgaa	24360
tgcaaatgga	ctagctcttt	taggccctgt	gggaaagtgc	tgggattcct	tgaacctgt	24420
caatcgtctg	tccgaggagt	gttcagctgg	gttccaaaag	gggatgatct	catgaggaa	24480

```

gagctgtctg cattcttttt gccacattta aatcccagca actaggctgc ctgggttttg 24540
cacagaaatg cctggtggct ttctgctgtt ttgttggggg ctggttaact agcagctgga 24600
aagttatcaa ttaggggtct tattggataa tagctaggga gagggatcag atgcttaaaa 24660
tagagggaac ctctagtatc ttttatttag ctagcttatt aaaatgtctc atgtctcaga 24720
caaactctgg cctgttcttt ttttttccaa ggtggggggag atggggggtg aacttcattt 24780
ctcatgctca tccccatctc ctttcagatg caaatgaatg tgaggccaaa ccttgtgtaa 24840
acgccaaatc ctgtaagaat ctcatgcca gctactactg cgactgtctt cccggtgga 24900
tgggtcagaa ttgtgacata agtgagtac tttgtttcca ttttgatttt catgaaactt 24960
gggtagccga cttgctggtc cgtactgggg ctccagtcct aggacttgag cagtagaagg 25020
aaaaccttag agtgggaatg gttttttgag agggagtggg cagggcagca gtgaaaacat 25080
acactttatc aggtcatta gctgcgaaaa ccagccatat tctgataatg tggctgaaac 25140
aatgatgtga agtttactc cctcattctg gaagaattag ggagggtccc caccagcgt 25200
aataacctta tctcacgga agcacacagg aaatctgatt tgaaacttat ctatcctgag 25260
ctgagaaggc ttttcaatta agcccaattt cactgtaaat tacctcttta aaatgatgac 25320
ttattttatt tttagatatt aatgactgcc ttggccagtg tcagaatgac gcctcctgtc 25380
gggtatgtaa atctttgctt aaatcaaaac tttgacaatt gacaacaaat ctttagattt 25440
gtgcgacact aggagagctc tgtccctgtg agatttaaaa atttgggtga aaaaagagtc 25500
tcttggaagt ttcgctaggg cttatgttac ccagcctcg tgggagtcac tttgaaggca 25560
tgcacataga aattcctcta accactttca gaggtttagc atttggctat ttcagtgaac 25620
cagctaaacc gcaacagtc tgcataaccg ctgaagccct gtgtttgtgg aatacataga 25680
aaaaaagcat gtgtctctct cctcccttct cctcttctag gatgtgggta atggttatcg 25740
ctgtatctgt ccacctggct atgcaggcga tcaactgtgag agagacatcg atgaatgtgc 25800
cagcaacccc tgtttgaatg ggggtcactg tcagaatgaa atcaacagat tccagtgtct 25860
gtgtcccact ggtttctctg gaaacctctg tcagggtgag ggtggcaaaa cctcagatgg 25920
ccaagttttt agagcagagc cgtgcctcc tccgcttccc tttacttttc cctcagctct 25980
tgtgtctgga atttcctaac atctattaac atcctattga tgagagagtc tctgctagac 26040
aaatgctggt ggaaggagat actgacgaat tattttcttc ttagtgtctt cgtctttgtg 26100
ttcttttttg tccccctac cccctcttgt gctccctctc ccaactctgc ccgttgtttc 26160
aaatactgga cattggcagt cctacagca tagagatgta tcttacaggg tgtctcctaa 26220
tagaaaccga aggaactgtc agattccagt gcctgctgcc ccagagaagt tatcgtgaca 26280
cctttgtttt actctgatcc cctccccctt tcgctgttcc tgatatttgc agctggacat 26340
cgattattgt gagcctaate cctgccagaa cgggtgccag tgctacaacc gtgccagtga 26400
ctatttctgc aagtgcctcg aggactatga gggcaagaac tgctcacacc tgaaagacca 26460
ctgccgcacg acccctgtg aaggtaacct ccttctcccg ggacctggct gtctccagac 26520
ttgctccttt tgtccccact tactaccact gcccttgtt acacttgaga agtaatgtat 26580
tggtgaggag gacctctata gtgaaatgat cctgcctgtg tagcgggccg caacacgtgg 26640
aaacaatcta ttcgggcctg ccagtgggag agcctgtctt acaagtagcc caggggagag 26700
aatgtgaaat ccatttagca ttctgttct ggggtgggct gatgtgcaac gctgaggcaa 26760
atgctgaga acaacactgt caacagaact tcctgcaacg gcagacagag ggggatgttc 26820
tgtatctgca cggtcaggta tgggagcccc aggccatgtg gactgtgact agtgtaaacta 26880
gaaactgatt ttatttctatt ttagttcatt taaatgtaaa tagccacatg tggccggtgg 26940
ctgctgtatt aggcagcaca acatttaag cttctataag attgtccttg agccttgctt 27000
aagatcaaaa aggaagttaa taaagcaggc ccttttgcct tagcaagtgt ttaccaaatt 27060
gggtagatgt caaaggtagg atgaagggga tccacaagca tgtgggtttt cctggttgtg 27120
tggagggaga aaatgcttta aaactctttg cctggagtct caactttgcc tgtcataatg 27180
tgatgtggca cgttgccagt atcttggctt cctgggggtg tgtctcatta gccaggggt 27240
cctgtctcc aggaaagtgg gcttggccca ggcccttggc ttaggaatgc cgcactgtg 27300
ggtgcatggc tgtgatctga tcccaagcct atcttctagt gattgacagc tgcacagtgg 27360
ccatggcttc caacgacaca cctgaagggg tgcggtatat ttctccaac gtctgtggtc 27420
ctcacgggaa gtgcaagagt cagtcgggag gcaaattcac ctgtgactgt aacaaaggct 27480
tcacgggaac atactgccat gaaagtaaga ctccctcatc cgggaatgga ccagtgtctc 27540
ccagcctgcc cctgcccctg cctctgcccc tggcccaccc tgggatcatt ggtgttgaaa 27600
gttttttttt tttttttgag accgaatttc gctgttgttg cccaggctag agtgagtggt 27660
cacgatctcg gctcaccaca acctcgccct cccaggttca agcgattctc ctgcctgcct 27720
cagccttctt gagtagctgg gattacaggc atgcgcacca cgcccaccac gccagctaa 27780
ttttgtattt ttagtagaga tgggggtttcc ccatgttggg caggctgggtc tcgaactccc 27840
agcctcagat gatccacccc ccgaccccca acttggcctc ccaaagtgtc gggattacag 27900
gtgtgagcca ccatgcccag cagtgttgaa attgttttaa tcagaaacag taaggctggg 27960
gagactgggt gagacttate cttacatctg ggaactaaga ctgaggctgt gttcaattta 28020
ccagatcact ctgcctcgga gcctccatat ctatgttggg acattctgga atgttgctag 28080
gttgggtgat tctctttttc tgtaggagtt tcttccccac tttcacctag taccggtgac 28140

```

taa atgcccc	tgtgagggca	ttaagtgggt	aaggcactct	ctggaagctt	ctgcttgata	28200
agccgcctgt	ctaatttgag	aaacagccct	gatggagggg	agcaggtgga	ggtgccaggt	28260
gcattgtgtc	aggagggagc	catgaaaact	gctgaacagt	gcttgtctat	ggcttcacaa	28320
gtccttcagt	tctttttttg	ctttactttg	tttcatagat	attaatgact	gtgagagcaa	28380
cccttgtaga	aacgggtggca	cttgcatcga	tgggtgtcaac	tcctacaagt	gcactctgtg	28440
tgacggctgg	gagggggcct	actgtgaaac	cagttagtct	gccactcttt	ggggagctct	28500
gggatgtatg	ggtcatgttg	gagggatccc	acttcaacgt	gggaaaactt	tctttgtact	28560
ggaaatctct	ggaagcaaga	ccgcagtgat	ttctgcactg	ggacagtatc	acttgtgtct	28620
catttgcatt	tatgagtcct	gatgatagct	tatggggagg	agcttctgct	gaggacctat	28680
agaattagac	tgtgtaataa	atattcctgc	ttgcaaggaa	agtcataatt	ctactttcat	28740
ttccatggga	cttccagagg	cccaccccac	atcttgccta	acttgtggca	ttcaaagtaa	28800
cccagttggg	agctccttta	ttcctggaaa	agcctgattg	tgttaaagta	ctacgactgt	28860
ggctgttctc	agaataggat	gttggtatga	agcagtagga	aaggcttggc	tctcgctgtg	28920
cgtgaatggg	cctggatctc	gtcttcagcc	gattgtctcc	cctttgattc	tagatattaa	28980
tgactgcagc	cagaacccct	gccacaatgg	gggcacgtgt	cgcgacctgg	tcaatgactt	29040
ctactgtgac	tgtaaaaaat	ggtggaaagg	aaagacctgc	cactcacgta	agtggtagtt	29100
ggccttggat	gctatctctg	ggacccttcc	ctctgtcttc	tgtgggaggg	ggccactggg	29160
actcacactg	aaatattttc	ctccaggtga	cagtcagtgt	gatgaggcca	cgtgcaacaa	29220
cggtggcacc	tgctatgatg	agggggatgc	ttttaagtgc	atgtgtcctg	gcggctggga	29280
aggaacaacc	tgtaacatag	gtaactttat	gccccacgtg	ggatctgcag	tgggcatggc	29340
cacctgggcy	tgtctgctgg	ttggccctcg	gagcttatga	tatttctctg	ggcctggttc	29400
ttgcccctcc	agactgtttc	tggatactca	gggaggggtg	tcgtgtctgc	tcttctttta	29460
tagcccgaaa	cagtagctgc	ctgcccaccc	cctgccataa	tgggggcaca	tgtgtggtca	29520
acggcgagtc	ctttacgtgc	gtctgcaagg	aaggctggga	ggggcccatc	tgtgtctcaga	29580
gtgagtgtcc	tcccccttg	aactctccca	gggctgtcgg	agcagatcct	gacacccttg	29640
gggacttgca	atggaaacca	gaagcagagc	tgtttgatgt	ctgcttttgt	atcacctggg	29700
tctgcattaa	tgactttagt	ggatacagcc	ctgacctggg	catgagaaa	tcgccaataa	29760
gataagtggg	gacagatggc	gtctcagttc	ccagctctgg	gtctgaccag	cagcctgtct	29820
ccttccattc	tcaccccccac	ccctatcccc	taccagggcc	tcttctctgt	tacatgtgtc	29880
ccacagcaaaa	tgaactaag	tgtggtgcgg	gcctggttcc	aatttagcaa	aggtattttg	29940
ctgggtgttaa	ctacgacttt	atcatttggg	tattaggaaa	ataagtgggt	gttttactta	30000
gggctaagac	cgctttccct	gttgaagtcc	tcactattaa	gttgtctttt	ctttgcagat	30060
accaatgact	gcagccctca	tccttggtaa	gtgtgacatc	cttttaagcc	agcactcatc	30120
cactatcgtg	tgtgtgtgtg	tgtgtgtgtg	tgtgtgtgtg	tgtgtgagaa	tcacccaggg	30180
attgtgttta	aaatgcaagt	tctgagtcag	gaggtctggg	gtggggcctc	agactgcttt	30240
tctaacaagc	tcccagggtga	agcgatcctg	ctgccccatg	gaccacactt	taattagcca	30300
ggttgtgtcc	tcatttagag	cagtgatttt	tcaaccttgg	ctgcacacca	gaatcacctg	30360
ggagctttta	aaaatcccgc	tgcctgggct	gcaaccaaga	cctgtgaaat	tagactttct	30420
gggggtggga	cccaggcatc	agtattcttt	taaaattccc	caggcaacgg	ccatgggggtg	30480
agagccactg	actgtaactg	gtgtggtgac	atgtgagtga	ttggcagcca	gagtaatgga	30540
ctgggaggtt	ggtaaaccaag	gtggtctttg	ctttcttagt	tacaacagcg	gcacctgtgt	30600
ggatggagac	aactggtacc	ggtgcgaatg	tgccccgggt	tttgctgggc	cgactgcag	30660
aataagtaa	gactgtctcc	gtctggtttt	cccaatggct	ttaccgcttc	attccatgcc	30720
tcaccccaag	actttcatct	ttaaaaacaa	agccaccatt	ccctttaagt	agctctcata	30780
gagcaagga	tctctctcct	ccagctggga	ttaagatatg	ccaggctgga	tcctcccagg	30840
tacctgctgg	tagttccctg	ggtggtgtag	ccctccttgt	tcttggggag	agagtgtgtc	30900
tcacagaatc	tgatgattaa	tctacagtgg	ggtcctgaag	aaagtatgtg	catttcccca	30960
tgactaacat	gaaattatgg	gcaagcagat	gttaaccaca	gctacactgg	tataggataa	31020
agctaataca	aacggaagg	aggacgactg	tggcttccag	aggcttgtct	gtgctgggtc	31080
tgatcaggcc	ctggagaaat	gactaaaaca	ggaaaatagg	ggcaggcaac	gcagtttttc	31140
aagaggctta	aagcatatta	ttttgagcct	tttctctact	tttttacaag	ccctttctct	31200
tacagaacaa	aaaagggtgt	agagtgttta	tggtttgatt	cttgtaccca	aattgtctga	31260
aattttactg	gtgcttgaaa	tccaagtctg	ggattaaacta	gtcttcagca	ctagatgggg	31320
gcagggttga	tctgtttcat	gtttctaaat	aaacagttgg	caaactgtgg	cccaggggcc	31380
gtatccagcc	cactgtctgt	ttttataaat	acagttttct	tggcacacag	ccacacattc	31440
atztatgtat	tgtctatggc	tactttcatg	ataccacaag	agttggatag	ttgtgacaga	31500
gactatatac	cccacaaagc	ctaagatgtt	tactgtctga	ccccttccag	gaaactttgc	31560
caggcttgct	gtaaattgca	ctgtcaaagg	aatcaaatta	aaaattgctg	cctcccaaaa	31620
tggttctcca	ctgttagaac	tcaggatggg	ggtggtcttt	gggagccagt	gattggagggt	31680
ttttgcaata	gatctgtttc	ttcttttgga	tgctgcttac	ctgagtgaag	attcatcaag	31740
cttatgatga	tatgcttttc	ttgtatgtta	tgtcaataaa	aacaatctca	aaacattgcc	31800

acacaccatc	agtccctaaa	cttgaactcc	atttctccta	gacatcaatg	aatgccagtc	31860
ttcaccttgt	gcctttggag	cgacctgtgt	ggatgagatc	aatggctacc	ggtgtgtctg	31920
ccctccaggg	cacagtgggt	ccaagtgcc	ggaaggatg	tgtgccaggc	ttcagctgcc	31980
catgggtctt	ctgggtgag	cgagctttgc	agtcaccatt	tgacttttca	caaataagcc	32040
actgtgtca	gggaagggaa	cacacagtgg	gactacaagg	gaaagggaa	gtgaagagtc	32100
ttccccaaaa	caggtagctg	ttgtttttgg	tcagctgttg	ccacaaaact	gtgtaccaaa	32160
ccatcccaaa	ctgctgtggc	ttgcagcaag	cattattttt	attgctcatg	atatgcagca	32220
tgggcagaga	gattgcgctg	tgggttgggt	tcagttcgac	cagtggctgt	gtctggggca	32280
tattcctttc	atcgccagtg	ggtaggtgtg	caagaggcta	gtcaaaggct	ctgctcacat	32340
cacatctgcc	aatgttacat	tggccagagc	aagtcttgtg	gccaaagcga	gagccagcaa	32400
aggcaggaag	tacacatgct	gttactgtgg	gaagaatgat	cttaacatgg	caaagggcac	32460
aggcataacc	atttcataac	agggaccaa	gaattgaacc	ccgatccggg	tcacagaaaa	32520
ataaaactgt	cacccgtctc	cacctgtcag	tttcaggagg	accttgcatc	accatgggga	32580
gtgtgatacc	agatggggcc	aaatgggatg	atgactgtaa	tacctgccag	tgctgaatg	32640
gacggatcgc	ctgctcaaag	gtaggacatg	atggctgccg	cagttcacct	gtgttctgga	32700
atcagggatg	agcatgcctg	ctaagctgcc	agcttctgtt	tttctccagg	tctggtgtgg	32760
ccctcgacct	tgcctgctcc	acaaagggca	cagcgagtgc	cccagcgggc	agagctgcac	32820
ccccatcctg	gacgaccagt	gcttcgtcca	cccctgcact	ggtgtgggcg	agtgtcgggc	32880
ttccagtctc	cagccggtga	agacaaagtg	cacctctgac	tcctattacc	aggataactg	32940
tgcgaaacatc	acatttacct	ttaacaagga	gatgatgtca	ccagtatgta	acaacctttg	33000
tttttttttt	gaatggtgga	tgtctgcttg	cttgctttta	aggaggaatg	ccatgagcta	33060
ggatctactt	ctccctagct	tacattcctg	ttttataata	aagtaagctt	gaacttagcc	33120
agcctcaaa	agaacatctc	agccttttgt	tcttctctc	aatcttacac	gtgtgtgggt	33180
ttttaaaaa	cgttttaggg	tcttactacg	gagcacattt	gcagtgaatt	gaggaatttg	33240
aatatattga	agaatgtttc	cgctgaatat	tcaatctaca	tcgcttgcca	gccttccctt	33300
tcagcgaaaca	atgaaataca	tgtggccatt	gtaagtataa	gaccatttca	caccttatta	33360
ttcgatggca	aggcagttcg	gttaaccagt	gtctgaatgg	agcaaattca	ctgacaaaaa	33420
gctttgcaga	cacagattgt	cgagtaattt	tgaagaaagg	ctgctttgag	tattcctctg	33480
actctcaagt	ctgacaattg	tttttccagt	ctgctgaaga	tatacgggat	gatgggaacc	33540
cgatcaagga	aatcactgac	aaaataatcg	atcttggttag	taaacgtgat	ggaaacagct	33600
cgctgattgc	tgccgttgca	gaagtaagag	ttcagaggcg	gcctctgaag	aacagaacag	33660
gtaggtgtca	agtgaggacta	gtttgtgtga	tgatagtaga	tgatctcatt	atactattca	33720
ataaagccat	caggtcgagg	gattatctgg	cagtgcctta	ccctcgcagg	agctcccaat	33780
ttaactgaga	actgaggggca	gcctacttta	ctaaggtcac	atggcccatg	ggaacagagg	33840
tctgcctcat	attttccttc	ccaacacact	atgcaacggt	ccctgcagaa	caggtattgt	33900
gctagatccg	tgacaaagcc	ctaggacact	gcttgtcctt	tgtccttgag	tttgaagctg	33960
tacaaagcct	gacttggcat	tttgggtgcc	tgggacagcc	tagccactgc	tgagctctgt	34020
gaggtctgat	ggccccgcag	gggtgtccag	gcttccctcc	tgaggatctc	gagcacccgt	34080
tcagccaagg	gagagattgg	gcatggagcc	atggcacgtt	tgagctgtct	gtgctaattt	34140
gaatcgattt	tctagtcttg	aaaaccaact	cctgtactga	gctgcctcag	tagccagact	34200
taacaagaca	ctgctctccc	catgcgaagt	caaagagcct	gtaggagctg	ccgctccacc	34260
cagtctctcc	agggataaga	gtatcaaggt	ctacaggggc	ctgatcccag	catttgctta	34320
tcaagttgtg	aagtgaccat	atgcaatgat	gaaaagggac	ttgtccctgt	ggccccctc	34380
ttagggataa	agggcaggag	aaccactggt	ggtattcttt	tgttcctgcg	atgatgcctt	34440
tttctttctt	tcttgagag	ttaattgggt	ttgtgcctgc	cttacagatt	tccttggtcc	34500
cttgctgagc	tctgtcttaa	ctgtggcttg	gatctgttgc	ttggtgacgg	ccttctactg	34560
gtgcctgcgg	aagcggcgga	agccgggcag	ccacacacac	tcagcctctg	aggacaacac	34620
caccaacaac	gtgcgggagc	agctgaacca	gatcaaaaac	cccattgaga	aacatggggc	34680
caacacggtc	cccatcaagg	attatgagaa	caagaactcc	aaaatgtcta	aaataaggac	34740
acacaattct	gaagtagaag	aggacgacat	ggacaaacac	cagcagaaag	cccggtttgc	34800
caagcagccg	gcgtacacgc	tggtagacag	agaagagaag	cccccaacg	gcacgccgac	34860
aaaacaccca	aactggacaa	acaaacagga	caacagagac	ttggaaagtg	cccagagctt	34920
aaaccgaatg	gagtacatcg	tatagcagac	cgcgggcact	gccgccccta	ggtagagctt	34980
gagggcttgt	agttctttta	actgtcgtgt	catactcgag	tctgaggccg	ttgctgactt	35040
agaatccctg	tgtaatttta	agttttgaca	agctggctta	cactggcaat	ggtagtttct	35100
gtggttggct	gggaaatcga	gtgccgcac	tcacagctat	gcaaaaagct	agtcaacagt	35160
accctggttg	tgtgtccctt	tgccagccgac	acggctctcg	atcaggctcc	caggagcctg	35220
cccagccccc	tggtctttga	gtcctccactt	ctgccagatg	tcctaattgg	gatgcagctt	35280
tagatcatag	ttttatttat	atttattgac	tcttgagttg	tttttgtata	ttggttttat	35340
gatgacgtac	aagtagttct	gtatttgaaa	gtgcctttgc	agctcagaac	cacagcaacg	35400
atcacaaatg	actttattat	ttattttttt	taattgtatt	tttgttgttg	ggggagggga	35460

```

gactttgatg tcagcagttg ctggtaaaat gaagaattta aagaaaaaaa tgtcaaaagt 35520
agaactttgt atagttatgt aaataattct tttttattaa tcaactgtgt tatttgattt 35580
attaacttaa taatcaagag ccttaaaaca tcattccttt ttatttatat gtatgtgttt 35640
agaattgaag gtttttgata gcattgtaag cgtatggctt tttttttttg aactcctctc 35700
attacttggt gcctataagc caaaattaaag gtgtttgaaa atagtttatt ttaaaacaat 35760
aggatgggct tctgtgcca gaatactgat ggaatttttt tgtacgacgt cagatgttta 35820
aaacaccttc tatagcatca cttaaaacac gttttaagga ctgactgagg cagtttgagg 35880
attagtttag aacaggtttt tttgtttgtt tgttttttgt tttctgctt tagacttgaa 35940
aagagacagg caggtgatct gctgcagagc agtaaggga caagttgagc tatgacttaa 36000
catagccaaa atgtgagtgg ttgaatatga ttaaaaatat caaattaatt gtgtgaactt 36060
ggaagcacac caatcttact ttgtaaattc tgatttcttt tcaccattcg tacataatac 36120
tgaaccactt gtagatttga tttttttttt taatctactg catttaggga gtattctaata 36180
aagctagtgt aatacttgaa ccataaaatg tcagtaaga tcaactgttt gatttgccat 36240
agagtacact gcctgcctta agtgaggaaa tcaaagtgtc attacgaagt tcaagatcaa 36300
aaaggcttat aaaacagagt aatcttggtg gttcaccatt gagaccgtga agatactttg 36360
tattgtccta ttagtgttat atgaacatac aaatgcattc ttgatgtgtt gttcttgcca 36420
ataaattttg aaaagtaata tttattaaat ttttttgtat gaaaacatgg aacagtgtgg 36480
cctctctcga gcttacgtag ttctaccggc ttgocatgt gcttctgcca cctgctgag 36540
tctgttctgg taatcggggc ataataggct ctgcctgaca gagggatgga ggaagaactg 36600
aaaggctttt caaccacaaa actcatctgg agttctcaa gacctggggc tgctgtgaag 36660
ctggaactgc gggagcccca tctaggggag ccttgattcc cttgttattc aacagcaagt 36720
gtgaatactg cttgaataaa caccactgga ttaatggcct gtagtgcga ggtgaattg 36779

```

<210> 75

<211> 11232

<212> DNA

<213> Homo sapiens

<400> 75

```

ccagttattg gtgccaggtc tgtgccagga gggcgaggcc tgtcatttct agtaatcctc 60
tgggcagtg gactgtacct ctgcgccaa ctcaaaggga gaggtgact tgtcccggt 120
cacagagctg aaagggcagg tacaacaggt gacatgccgg gctgtctgag tttatgaggg 180
cccagtcctg tgtctgcogg gcaatgagca aggtccttc ctgtccaagc tccccgccc 240
tccccagcct actgcctoca cccgaagtct acttctctgg tgggcaggaa ctgggcactg 300
tgcccagggc atgcaactgcc tccacgcagc aacctcaga gtctgagct gaaccaagaa 360
ggaggagggg gtcgggcctc cgaggaaggc ctagccgctg ctgctgccag gaattccagg 420
ttggaggggc ggcaacctcc tgccagcctt caggccactc tctgtgctt gccagaagag 480
acagagcttg aggagagctt gaggagagca ggaaagggtg gacattgctg ctgctgctct 540
aaccactct gatctcccag ggcggcagta agtcttcagc atcaggcatt ttggggtgac 600
tcagtaaatg gtagatcttg ctaccagtgg aacagccact aaggattctg cagtgaagac 660
agagggccag ctaagtgtga ctctcccaga gactgtctga ctacgccac cccctccac 720
ttggacacag gacgtgtgg tttctgagcc aggtacaatg actcctttcg gtaagtgcag 780
tggaagctgt acactgccc ggcaaagcgt ccgggcagcg taggcgggcg actcagatcc 840
cagccagtgg acttagcccc tgtttgctcc tccgataact ggggtgacct tggttaatat 900
tcaccagcag cctccccctg tgccccctct gatccactgc ttaataacgg acgaggacag 960
ggccctgtct cctcagcttc aggcaccacc actgacctgg gacagtgaat cgtaagtatg 1020
cctttcactg cgagagggtt tgagagggt tctgagctcc ccatggccca ggcaggcagc 1080
aggtctgggg caggaggggg gttgtggagt gggatatccg ctgctgaggt gcagggcaga 1140
tgagagggtc gcagctgagc tctatttttc ataataacag cagccatgag ggttgtgtcc 1200
tgtttccag tctgcccgg tccccctcg gtacctctg gtggatacac tggttcctgt 1260
aagcagaagt ggatgagggg gtctaggtct gcagtcctgg caccacagga tgggggacac 1320
cagccaagat acagcaacag caacaaagcg cagccatttc tttctgtttg cacagctcct 1380
ctgtctgtcg ggggtcctct tctgttgtct cctataagcc tcaccacctc tctactgct 1440
tgggcatgca tctttctccc ctctataga tgaggagggt aagggtccaga gaggggtggg 1500
gaggaacgcc ggtcacatt ctccatcccc tccagatatg accaggaaca gacctgtgcc 1560
aggcctcagc cttacatcaa aatgggcctc cccatgcacc gtggacctct gggccctcct 1620
gtcccagtgg aggacaggaa gctgtgagg gcaactgtcac ccagggtca agctggcatt 1680
cctgaataat cgctctgcac caggccacgg ctaagctcag tgcgtgatta agcctcataa 1740
ccctccaagg cagttactag tgtgattccc attttacaga tgaggaagat ggggacagag 1800

```

aggtgaataa	ctggcccca	atcacacacc	atccataatt	cgggctcagg	cacctggctc	1860
cagtccccaa	actcttgaac	ctggccctag	tgtcactgtt	tctcttgggt	ctcaggcgct	1920
ggatggggaa	caggaaacct	gggctggact	tgaggcctct	ctgatgctcg	gtgacttcag	1980
acagttgctc	aacctctctg	ttctcttggg	caaaacatga	taacctttga	cttctgtccc	2040
ctccccac	cccacccgac	cttgatctct	gaagtgttgg	aaggatttaa	tttttccctgc	2100
actgagtttt	ggagacaggt	caaaaagatg	accaaggcca	aggtggccag	tttcctatag	2160
aacgcctcta	aaagacctgc	agcaatagca	gcaagaactg	gtattctcga	gaacttgctg	2220
cgcagcaggc	acttcttggc	attttatgtg	tatttaattt	cacaatagct	ctatgacaaa	2280
gtccaccttt	ctcatctcca	ggaaactgag	gttcagagag	gttaagtaac	ttgtccaagg	2340
tcacacagct	aatagcaagt	tgacgtggag	caatctggcc	tcagagcctt	taatttttagc	2400
cacagactga	tgctccctc	ttcatttagc	caggctgcct	ctgaagtttt	ctgattcaag	2460
acttctggct	tcagctttgt	acacagagat	gattcaatgt	caggtttttg	agtgaatct	2520
gtttaatccc	agacaaaaca	tttaggatta	catctcagtt	ttgtaagcaa	gtagctctgt	2580
gatttttagt	gagttattta	atgctctttg	gggctcaatt	tttctatcta	taaaataggg	2640
ctaataattt	gcaccttata	gggtaagctt	tgaggacaga	ttagatgata	cgggtgcctgt	2700
aaaacaccag	gtgttagtaa	gtgtggcaat	gatggtgacg	ctgaggctga	tgtttgctta	2760
gcatagggtt	aggcagctgg	caggcagtaa	acagttggat	aatttaatgg	aaaatttgcc	2820
aaactcagat	gctgttcact	gctgagcagg	agccccctcc	tgctgaaatg	gtcctgggga	2880
gtgcagcagg	ctctccggga	agaaatctac	catctctcgg	gcaggagctc	aacctgtgtg	2940
caggtagcagg	gagggcttcc	tcacctggtg	cccactcatg	cattacgtca	gttattcctc	3000
atccctgtcc	aaaggattct	tttctccatt	gtacagctat	gaagctagtg	ctcaaagaag	3060
tgaagtcatt	taccccaggc	cccctgccag	taagtgcag	ggcctgggtca	cacttgggtt	3120
tatttattgc	ccagttcaac	aggttgtttg	accataggcg	agattctctt	ccctgcaccc	3180
tgccgggttg	ctcttggctc	cttattttat	gtccccgggt	agaaatggtg	tgagattagg	3240
caggagtggt	ctcgcttccc	tgtccctggc	cccgcaaaga	gtgctccac	ctgccccgat	3300
cccagaaatg	tcaccatgaa	gccttcattc	ttttggttta	aagcttggcc	tcagtgtccg	3360
tacaccatgt	ggtagctggc	cagatggcga	cttctcctc	tccagtcgcc	ctcccaggca	3420
ctagctttta	ggagtgcagg	gtgctgcctc	tgatagaagg	gccaggagag	agcaggtttt	3480
ggagtccctga	tgttataaagg	aacagcttgg	gaggcataat	gaacccaaca	tgatgcttga	3540
gaccaatgtc	acagcccaat	tctgacattc	atcatctgag	atctgaggac	acagctgtct	3600
cagttcatga	tctgagtgtc	gggaaagcca	agacttgctc	cagctttgtc	actgacttgc	3660
tgtatagcct	caacaaggcc	ctgacctct	ctgggcttca	aactcttcac	tgtgaaagga	3720
ggaaaccaga	gtaggtgatg	tgacaccagg	aaagatggat	gggtgtgggg	gaatgtgctc	3780
ctcccagctg	tcacccctc	gccacctcc	ctgcaccagc	ctctccacct	cctttgagcc	3840
cagaattccc	ctgtctagga	gggcacctgt	ctcatgccta	gccatgggaa	ttctccatct	3900
gttttgctac	attgaaccca	gatgccattc	taaccaagaa	tcctggctgg	gtgcaggggc	3960
tctcgctgt	aaccccagca	ctttgggagg	ccaaggcagg	cggatcaaga	ggtcaggagt	4020
tcaagacctg	cctggccaac	acggtgaaac	ctcagctcta	ctaaaaatac	aaaaattagc	4080
caggcggtgt	ggcacacgcc	tgtaatccca	gctatttggg	aagctgagac	agaagaattt	4140
cttgaacccg	ggaggtggag	gtttcagtga	gccgagatca	cgccactgca	ctccacctg	4200
gcagataaag	cgagactctg	tctcaaaaaa	aacccaaaaa	cctatgttag	tgtacagagg	4260
gccccagtga	agtcttctcc	cagccccact	ttgcacaact	ggggagagtg	aggccccagg	4320
accagagat	tcttgctaaa	ggccaagtgg	atagtagtgg	ccctgccagg	gctagaagcc	4380
acaacctctg	gccctgaggc	cactcagcat	atttagtgtc	cccacctgc	agaggcccaa	4440
ctccctcctg	accactgagc	cctgtaatga	tgggggaatt	tccataagcc	atgaaggact	4500
gcacaaaagt	cagttgggaa	gtgaaagaga	aattaaaggg	agatggaaat	atacagcact	4560
aatttttagca	ccgtctttag	ttctaacaac	actagctagc	tgaagaaaaa	tacaaacatg	4620
tattatgtaa	tgtgtggtct	gttccatttg	gattacttag	aggcacgagg	gccaggagaa	4680
aggtggtgga	gagaaaccag	ctttgcactt	catttgttgc	tttattggaa	ggaaactttt	4740
aaaagtccaa	gggggttgaa	gaatctcaat	atttgttatt	tccagctttt	tttctccagt	4800
ttttcatttc	ccaaattcaa	ggacaccttt	ttctttgtat	tttgtaaga	tgatggtttt	4860
ggttttgtga	ctagtagtta	acaatgtggc	tgccgggcat	attctectca	gctaggacct	4920
cagttttccc	atctgtgaag	acggcagggt	ctacctaggg	ggctgcaggc	tggtgggtccg	4980
aagcctgggc	atatctggag	tagaaggatc	actgtggggc	agggcagggt	ctgtgttgct	5040
gtggatgacg	ttgactttga	ccattgctcg	gcagagcctg	ctctcgctgg	ttcagccaca	5100
ggccccacca	ctccctattg	tctcagcccc	gggtatgaaa	catgtattcc	tactggcct	5160
atcacctgaa	gcctttgaat	ttgcaacacc	tgccaacccc	tccctcaaaa	gagttgccct	5220
ctcagatcct	tttgatgtaa	ggtttggtgt	tgagacttat	ttcactaaat	tctcatacat	5280
aaacatcact	ttatgtatga	ggcaaaatga	ggaccaggga	gatgaatgac	ttgtcctggc	5340
tcatacacct	ggaaagtgc	agagtcagat	tagatcccag	gtctatctga	agttaaaaga	5400
ggtgtctttt	cacttcccac	ctcctccatc	tactttaaag	cagcacaac	ccctgctttc	5460

aaggagagat	gagcgtctct	aaagcccctg	acagcaagag	cccagaactg	ggacaccatt	5520
agtgaccag	acggcaggta	agctgactgc	aggagcatca	gcctattctt	gtgtctggga	5580
ccacagagca	ttgtggggac	agccccgtct	cttgggaaaa	aaaccctaag	ggctgaggat	5640
ccttgtgagt	gttgggtggg	aacagctccc	aggaggttta	atcacagccc	ctccatgctc	5700
tctagctgtt	gccattgtgc	aagatgcatt	tcccttctgt	gcagcagttt	ccctggccac	5760
taaatagtgg	gattagatag	aagccctcca	agggtctcca	gcttgacatg	attcttgatt	5820
ctgatctggc	ccgattcctg	gataatcgtg	ggcaggccca	ttcctcttct	tgtgcctcat	5880
tttcttcttt	tgtaaaacaa	tggctgtacc	atttgcattc	tagggtcatt	gcagatgtaa	5940
gtgttgctgt	ccagagcctg	ggtgcaggac	ctagatgtag	gattctgggt	ctgctacttc	6000
ctcagtgaca	ttgaatagct	gacctaattc	ctctggcttt	ggtttcttca	tctgtaaaag	6060
aaggatatta	gcattagcac	ctcacgggat	tgttacaaga	aagcaatgaa	ttaacacatg	6120
tgagcacgga	gaacagtgtc	tggcatatgg	taagcactac	gtacattttg	ctattcttct	6180
gattctttca	gtgttactga	tgtcggcaag	tacttggcac	aggctgggtt	aataatccct	6240
aggcaacttc	acgtgggtgc	aatccctgat	cactgggagt	catcatgtgc	cttgactcgg	6300
ggcctggccc	ccccatctct	gtcttgcagg	acaatgccgt	cttctgtctc	gtggggcatc	6360
ctcctgctgg	caggcctgtg	ctgcctggtc	cctgtctccc	tggctgagga	tccccaggga	6420
gatgctgccc	agaagacaga	tacatcccac	catgatcagg	atcacccaac	cttcaacaag	6480
atcaccccca	acctggctga	gttcgccttc	agcctatacc	gccagctggc	acaccagtcc	6540
aacagcacca	atatcttctt	ctccccagtg	agcatcgcta	cagcctttgc	aatgctctcc	6600
ctggggacca	aggctgacac	tcacgatgaa	atcctggagg	gcctgaattt	caacctcacg	6660
gagattccgg	aggctcagat	ccatgaaggc	ttccaggaaac	tcctccgtac	cctcaaccag	6720
ccagacagcc	agctccagct	gaccaccggc	aatggcctgt	tcctcagcga	gggcctgaag	6780
ctagtggata	agtttttggg	ggatgttaaa	aagttgtacc	actcagaagc	cttcactgtc	6840
aacttcgggg	acaccgaaga	ggccaagaaa	cagatcaacg	attacgtgga	gaagggtact	6900
caagggaaaa	ttgtggattt	ggtcaaggag	cttgacagag	acacagtttt	tgtctgtgtg	6960
aattacatct	tctttaaagg	taaggttgct	caaccagcct	gagctgttcc	catagaaaca	7020
agcaaaaata	ttctcaaacc	atcagttctt	gaactctcct	tggcaatgca	ttatgggcca	7080
tagcaatgct	tttcagcgtg	gattcttcag	ttttctacac	acaaacacta	aaatgttttc	7140
catcattgag	taatttgagg	aaataataga	ttaactgtc	aaaactactg	acagctctgc	7200
agaacttttc	agagccttta	atgtccttgt	gtatactgta	tatgtagaat	atataatgct	7260
tagaactata	gaacaaattg	taatacactg	cataaaggga	tagtttcatg	gaacatactt	7320
tacacgactc	tagtgtccca	gaatcagtat	cagttttgca	atctgaaaga	cctgggttca	7380
aatcctgcct	ctaacacaat	tagcttttga	caaaaaacaat	gcatttctacc	tctttgaggt	7440
gctaatttct	catcttagca	tggacaaaat	accattcttg	ctgtcaggtt	tttttaggat	7500
taaacaaatg	acaaagactg	tggggatggt	gtgtggcata	cagcaggtga	tggactcttc	7560
tgtatctcag	gctgccttcc	tgccctgag	gggttaaaat	gccagggtcc	tgggggcccc	7620
agggcattct	aagccagctc	ccactgtccc	aggaaaacag	cataggggag	gggaggtggg	7680
aggcaaggcc	aggggctgct	tcctccactc	tgaggctccc	ttgctcttga	ggcaaaggag	7740
ggcagtggag	agcagccagg	ctgcagtcag	cacagctaaa	gtcctggctc	tgctgtggcc	7800
ttagtggggg	cccaggctcc	tctccagccc	cagtctcctc	cttctgtcca	atgagaaagc	7860
tgggatcagg	ggtccctgag	gccccgtgcc	actctgcatg	cctcgatggt	gaagctctgt	7920
tggtatggca	gaggggaggc	tgtcaggcca	tctgcatttc	ccctgccaat	ctagaggatg	7980
aggaaagctc	tcaggaatag	taagcagaat	gtttgccctg	gatgaataac	tgagctgcca	8040
attaacaagg	ggcagggagc	cttagacaga	aggtacccaa	tatgcctgat	gctccaacat	8100
tttatttgta	atatccaaga	cacctcaaaa	taaacatatg	attccaataa	aaatgcacag	8160
ccacgatggc	atctcttagc	ctgacatgct	cacgatgtag	aaattctgca	tcttcctcta	8220
gttttgaatt	atccccacac	aatctttttc	ggcagcttgg	atggtcagtt	tcagcactct	8280
ttacagatga	tgaagctgag	cctcgaggga	tgtgtgtcgt	caagggggct	cagggcttct	8340
cagggagggg	actcatgggt	tctttattct	gtcacactct	tccaaacctt	cactcacccc	8400
tggatgagcc	caccttcccc	tctctccagg	caaatgggag	agaccctttg	aagtcaagga	8460
caccgaggaa	gaggacttcc	acgtggacca	ggtgaccacc	gtgaagggtc	ctatgatgaa	8520
gcgttttagc	atgtttaaca	tccagcactg	taagaagctg	tccagctggg	tgtgtctgat	8580
gaaatacctg	ggcaatgcca	ccgccatctt	cttctgtcct	gatgagggga	aactacagca	8640
cctggaaaat	gaactcacc	acgatatcat	caccaagttc	ctggaaaatg	aagacagaag	8700
gtgattcccc	aacctgaggg	tgaccaagaa	gctgccca	cctcttagcc	atgttgggac	8760
tgaggcccat	caggactggc	cagagggctg	aggaggtgga	acccacatc	cctgggtcac	8820
tgtactctg	tataaacttg	gcttccagaa	tgaggccacc	actgagttca	ggcagcgcca	8880
tccatgctcc	atgaggagga	cagtacccag	gggtgaggag	gtaaaggtct	cgtccctggg	8940
gacttcccac	tccagtgtgg	acactgtccc	ttcccaatat	ccagtggcca	gggcagggac	9000
agcagcacca	ccacacgttc	tggcagaacc	aaaaagggaac	agatgggctt	cctggcaaag	9060
gcagcagtgg	agtgtggagt	tcaagggtag	aatgtccctg	gggggacggg	ggaagagcct	9120

```

gtgtggcaag gccagaaaa gcaagggttcg gaattggaac agccaggcca tgttcgcaga 9180
aggcttgctg ttctctgtca ctttatcggt gctgttagat tgggtgtcct gtagtaagtg 9240
atacttaaac atgagccaca cattagtgtg tgtgtgtgca ttcgtgatta tgcccatgcc 9300
ctgctgatct agttcgtttt gtacactgtg aaaccaagat gaaaatacaa aagggtgtcgg 9360
gttcataata ggaatcgagg ctggaatttc tctgttccat gccagcacct cctgaggtct 9420
ctgctccagg ggttgagaaa gaacaaagag gctgagaggg taacggatca gagagcccag 9480
agccaagctg ccgctcaca ccagaccctg ctcaggggtg cattgtctcc ccatggaaaa 9540
ccagagagga gcactcagcc tgggtgtggt actcttctct tatccactaa acggttgtca 9600
ctgggcactg ccaccagccc cgtgtttctc tgggtgtagg gccctgggga tgttacaggc 9660
tgggggccag gtgacccaac actacagggc aagatgagac aggcctccag gacacctaga 9720
atatcagagg aggtggcatt tcaagctttt gtgattcatt cgatgttaac attctttgac 9780
tcaatgtaga agagctaaaa gtagaacaaa ccaaagccga gttcccatct tagtgtgggt 9840
ggaggacaca ggagtaagtg gcagaaataa tcagaaaaga aaacacttgc actgtgggtg 9900
gtcccagaag aacaagagga atgctgtgcc atgccttgaa tttcttttct gcacgacagg 9960
tctgccagct tacatattacc caaactgtcc attactggaa cctatgatct gaagagcgtc 10020
ctgggtcaac tgggcatcac taaggctctc agcaatgggg ctgacctctc cggggtcaca 10080
gaggaggcac ccctgaagct ctccaagggt agatcacctc gacgaccttg ttgcacctg 10140
gtatctgtag ggaagaatgt gtgggggctg cagctctgtc ctgaggctga ggaaggggcc 10200
gagggaaaca aatgaagacc caggctgagc tcctgaagat gccctgatt cactgacacg 10260
ggacgtggtc aaacagcaaa gccaggcagg ggactgctgt gcagctggca ctttcggggc 10320
ctcccttgag gttgtgtcac tgacctgaa tttcaacttt gcccaagacc ttctagacat 10380
tgggccttga tttatccata ctgacacaga aaggtttggg ctaagttgtt tcaaaggaat 10440
ttctgactcc ttcgatctgt gagatttggt gtctgaatta atgaatgatt tcagctaaag 10500
atgacactta ttttgaaaaa ctaaaggcga ccaatgaaca actgcagttc catgaatggc 10560
tgcattatct tggggtctgg gcactgtgaa ggctactgcc agggctccgtg tcctcaagga 10620
gcttcaagcc gtgtactaga aaggagagag ccctggaggc agacgtggag tgacgatgct 10680
cttccctggt ctgagttgtg ggtgcacctg agcaggggga gaggcgcttg tcaggaagat 10740
ggacagaggg gagccagccc catcagccaa agccttgagg aggagcaagg cctatgtgac 10800
agggagggag aggatgtgca gggccagggc cgtccagggg gagtgagcgc ttcctgggag 10860
gtgtccacgt gagccttgct cgaggcctgg gatcagcctt acaacgtgtc tctgcttctc 10920
tccccccag gccgtgcata aggetgtgct gaccatcgac gagaaaggga ctgaagctgc 10980
tggggccatg tttttagagg ccatacccat gtctatcccc cccgaggtca agttcaacaa 11040
accctttgtc ttcttaatga ttgaacaaaa taccaagtct cccctcttca tgggaaaagt 11100
ggtgaatccc acccaaaaaa aactgcctct cgctcctcaa cccctcccct ccatccctgg 11160
ccccctccct ggatgacatt aaagaagggt tgagctggtc cctgcctgca tgtgactgta 11220
aatccctccc at                                     11232

```