

**WEB APPENDIX for Fowler, James H. “Elections and Markets: The Effect of Partisan Orientation, Policy Risk, and Electoral Margins on the Economy,” *Journal of Politics***

Tables A-1 and A-2 explain how data are derived from futures prices. Panels are based on the following periods: 6/10/88-11/9/88, 1/22/92-11/4/92, 6/21/94-11/9/94, 1/2/96-11/6/96, 2/3/98-11/4/98, 1/3/00-11/10/00, 7/20/02-11/6/02. These periods start on the first day in which at least one bond futures price and one election futures contract price are observed within the year of the election and they end the day the election outcome is known. IEM records daily historical data prices at midnight after the market has absorbed all the prime-time news. This contrasts with financial markets that close in the afternoon before critical campaign information is released. Therefore electoral probabilities are lagged by one day relative to interest rates to make sure that today's financial markets know about yesterday evening's political news. This should also address concerns about possible endogeneity.

A major difficulty with approaches based on monthly data (such as Cohen 1993) is that they assume a one-month lag in economic variables because the market gets data for the prior month. However, based on release dates published in the Bureau of Labor Statistics, CPI data has been

**TABLE A-1. Economic Variables**

<i>Variable</i>	<i>Observations</i>							<i>Description</i>
	<i>1988</i>	<i>1992</i>	<i>1994</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>	
3 Month Maturity	107	201	100	204	163	60	53	Change in future 3 month Treasury bill yield in percent. Calculated as (100 – futures price).
2 Year Maturity	-	102	81	93	89	69	66	Change in future 2 year Treasury note yield in percent. Calculated as the effective yield at the current futures price of a 2 year bond with a biennial coupon of 8 percent.
5 Year Maturity	107	170	100	159	142	97	78	Change in 5 year Treasury note future yield in percent. Calculated as the effective yield at the current futures price of a 5 year bond with a biennial coupon of 8 percent for 1988-1998 and 6 percent for 2000.
10 Year Maturity	107	200	100	216	191	114	78	Change in 10 year Treasury note future yield in percent. Calculated as the effective yield at the current futures price of a 10 year bond with a biennial coupon of 8 percent for 1988-1998 and 6 percent for 2000.
30 Year Maturity	107	200	100	216	191	216	78	Change in 30 year Treasury note future yield in percent. Calculated as the effective yield at the current futures price of a 30 year bond with a biennial coupon of 8 percent for 1988-1998 and 6 percent for 2000.
M1	153	288	142	310	275	311	112	Most recent one week rate of growth in the M1 money supply as reported by the Federal Reserve Board.
Inflation	153	288	142	310	275	311	112	Most recent one month rate of growth in the consumer price index as reported by the Bureau of Labor Statistics.
Unemployment	153	288	142	310	275	311	112	Most recent unemployment rate as reported by the Bureau of Labor Statistics.
Industrial Production	153	288	142	310	275	311	112	Most recent one month rate of growth in the industrial production index as reported by the Federal Reserve Board.

**Table A-2. Election Futures Variables**

<i>Variables</i>	<i>Panels</i>	<i>Obs.</i>	<i>Description</i>
Probability	1994	142	$[HM.DEM + (1 - HM.REP)] / 2$
Left Wins	1996	93	$[RH.lose + (1 - (RH.hold + RH.gain)) + (NhNs + NhRs) + (1 - (RhRs + RhNs))] / 4$
House ( $p_C$ )	1998	274	“
	2000	309	“
	2002	112	“
Probability	1992	117	$[P.CL + (1 - (P.BU + P.PE))] / 2$
Left Wins	1994	142	1
Presidency ( $p_P$ )	1996	310	$[(CLIN + OTDEM) + (1 - (REP + ROF96))] / 2$
	1998	275	1
	2000	189	$[Dem + (1 - (Rep + Reform))] / 2$
	2002	112	0
Democratic	1988	153	$[(Dukakis + Jackson) / (Dukakis + Jackson + Bush)]$
Presidential	1992	288	$[(D.BR + D.CL + D.HA + D.KE + D.RF + D.TS) + (1 - R.BU)] / 2$
Vote Share ( $\mu$ )	1996	276	$[V.CLIN + (1 - V.DOLE)] / 2$
	2000	305	$[DemVS / (DemVS + RepVS)]$

*Note:* Negative implied values and implied values greater than one are set to zero and one, respectively. Abbreviations in calculations for probabilities and vote shares based on election futures contracts are taken directly from Iowa Electronic Markets (<http://www.biz.uiowa.edu/iem/archive/historicaldata.html>).

released as late as eight weeks after-the-fact. Therefore, these models probably give the market more prescience than it actually has. To solve this problem, unrevised control data are matched with release dates to specify precisely when the market receives the information. This is especially important since the tests here are based on daily data.

Incumbent probabilities are not observed but they can be derived given partisan probabilities and information about the incumbent parties. Let  $I_P, I_C \in \{0,1\}$  denote the current party in the Presidency and the Congress (0 for Republicans and 1 for Democrats). The probability of the challenger party winning the Presidency is  $p_{ch,P} = ((1 - I_P)p_P + I_P(1 - p_P))$  and the probability of the challenger party winning the Congress is  $p_{ch,C} = ((1 - I_C)p_C + I_C(1 - p_C))$ .

The number of observations for each panel varies depending on trading volume, contract availability, and rules regarding the first date a contract may be traded. As a result, if we use listwise deletion for the analysis, missingness in the data forces us to eliminate most of the observations in the data set. One possible solution is to eliminate some of the independent variables from consideration. However, missingness in the dependent variable is correlated with several of the independent variables, suggesting that listwise deletion may cause omitted variable bias. Thus I follow the advice of King, et al (2001) who recommend multiple imputation as a superior alternative to listwise deletion. The imputation model is based on the EM algorithm with importance sampling and includes all of the variables used in the analysis model. Specifically, this means I include variables for the yields implied by two and five year treasury futures, variables related to electoral probabilities and vote share ( $p_P, p_C, p_P p_C, p_P(1 - p_P), p_C(1 - p_C), cov(p_P, p_C), ((1 - I_P)p_P + I_P(1 - p_P)), ((1 - I_C)p_C + I_C(1 - p_C)), I_P, I_C, \mu, \mu^2$ ), and economic controls ( $MI, CPI, UE, IP$ ). To improve estimation, the imputation model also includes variables for yields implied by 3 month, 10 year, and 30 year treasury futures.

**Table A-3. Impact of Electoral Outcomes on Interest Rates 1994-2002**

Dependent Variable: Expected Post-Electoral Nominal Interest Rates

		Two Year Maturity			Five Year Maturity		
		MLE	95% Conf. Int.		MLE	95% Conf. Int.	
<i>Model Coefficients</i>							
$\alpha$	<i>Change</i>	0.74	0.63	0.87	0.72	0.14	0.88
	<i>Lagged Level</i>	0.55	0.00	0.77	0.50	0.44	0.60
$\pi_D - \pi_R$	<i>Change</i>	2.09	1.24	2.71	1.76	0.94	2.51
	<i>Lagged Level</i>	2.93	1.74	3.52	2.71	2.02	3.17
$S$	<i>Change</i>	1.19	-0.14	2.61	1.03	0.04	2.17
	<i>Lagged Level</i>	2.32	1.06	3.54	1.46	0.45	2.48
$\sigma_D - \sigma_R$	<i>Change</i>	-0.31	-1.27	0.77	-0.47	-1.37	0.83
	<i>Lagged Level</i>	-1.31	-1.89	-0.24	-1.58	-2.01	-0.92
$\sigma_R$	<i>Change</i>	0.74	0.10	1.90	0.81	-0.03	2.20
	<i>Lagged Level</i>	0.95	0.56	1.36	1.07	0.78	1.42
$\sigma_S$	<i>Change</i>	20.99	6.38	35.81	14.33	2.15	26.85
	<i>Lagged Level</i>	34.18	15.01	53.31	21.94	7.07	36.87
$\sigma_{ch,P}$	<i>Change</i>	0.49	-0.07	1.13	0.51	0.02	0.93
	<i>Lagged Level</i>	-0.04	-0.41	0.46	-0.13	-0.41	0.16
$\sigma_{ch,H}$	<i>Change</i>	0.56	0.11	0.95	0.57	0.26	0.89
	<i>Lagged Level</i>	-0.25	-0.82	0.61	-0.46	-0.83	0.02
<i>Economic Controls</i>							
M1	<i>Change</i>	-0.03	-0.09	0.02	-0.01	-0.05	0.03
	<i>Lagged Level</i>	-0.03	-0.06	0.01	-0.02	-0.05	0.00
Inflation	<i>Change</i>	0.05	-0.34	0.48	0.06	-0.23	0.38
	<i>Lagged Level</i>	0.18	0.06	0.30	0.03	-0.05	0.13
Unemployment	<i>Change</i>	-0.41	-1.06	0.16	-0.19	-0.66	0.26
	<i>Lagged Level</i>	-0.06	-0.12	0.01	0.01	-0.02	0.05
Industrial Production	<i>Change</i>	0.00	-0.12	0.11	-0.01	-0.09	0.08
	<i>Lagged Level</i>	-0.06	-0.10	-0.03	-0.04	-0.07	-0.01
<i>Technical Parameters</i>							
Lagged Dependent Variable	<i>Change</i>	-0.14	-0.19	-0.09	-0.11	-0.16	-0.06
	<i>Level</i>	-0.38	-0.43	-0.32	-0.27	-0.33	-0.22
Constant		-0.29	-0.95	0.38	-0.23	-0.76	0.30
$\sigma_Y$		0.23	0.21	0.25	0.17	0.15	0.19
$\eta$		6.88	4.56	13.07	4.11	2.98	6.18
Mean Log Likelihood		-113.78			94.46		
LaGrange Multiplier Test (effect of $\varepsilon_{t-1}$ on $\varepsilon_t$ )		-0.02	-0.08	0.04	-0.02	-0.08	0.04

Note: Maximum likelihood estimates of coefficients in equation (7) using an error correction model and restricting attention to the 1994-2002 elections. Confidence intervals calculated from profile likelihood.

To deal with serial correlation, the imputation model assumes an ADL(1,1) structure to the data. Lagrange Multiplier Tests in the unimputed data suggest that one lag of each of the variables is sufficient to reduce serial correlation to insignificance. Note that there is only one observation (the election outcome) for  $p_C$  in 1988 and 1992 so all these data are imputed. However, Table A-3 shows that model results are not substantively different when these two elections are excluded. Election Day changes in electoral probabilities are much larger than typical changes prior to Election Day, but Table A-4 shows that when these outliers are excluded the substantive results remain the same.

**Table A-4. Impact of Electoral Outcomes on Interest Rates (WITHOUT OUTLIERS)**

Dependent Variable: Expected Post-Electoral Nominal Interest Rates

Symbol	Two Year Maturity			Five Year Maturity				
	MLE	95% Conf. Int.		MLE	95% Conf. Int.			
<i>Model coefficients</i>								
Relative influence of Presidency	$\alpha$	<i>Change</i>	0.53	0.47	0.60	0.47	0.53	0.39
		<i>Lagged Level</i>	0.53	0.47	0.74	0.43	0.51	0.37
Partisan difference in inflation	$\pi_D - \pi_R$	<i>Change</i>	3.40	2.87	3.85	2.43	1.88	2.89
		<i>Lagged Level</i>	3.23	2.49	3.73	2.51	2.03	2.90
Partisan difference in inflation risk	$\sigma_D - \sigma_R$	<i>Change</i>	-2.04	-2.60	-1.39	-1.40	-1.87	-0.93
		<i>Lagged Level</i>	-2.10	-2.59	-1.39	-1.78	-2.11	-1.34
Republican inflation risk minus partisan covariance	$\sigma_R - c_{DR}$	<i>Change</i>	1.80	1.44	2.21	1.14	0.79	1.53
		<i>Lagged Level</i>	1.66	1.29	2.05	1.27	0.99	1.60
Effect of challenger party in Presidency	$\sigma_{ch,P}$	<i>Change</i>	-0.18	-0.59	0.14	0.26	0.03	0.55
		<i>Lagged Level</i>	-0.51	-0.75	0.30	-0.12	-0.27	0.01
Effect of challenger party in House	$\sigma_{ch,H}$	<i>Change</i>	0.52	0.24	0.82	0.40	0.07	0.80
		<i>Lagged Level</i>	-0.16	-0.71	0.48	-0.36	-0.71	0.10
Effect of mandate on inflation	$s$	<i>Change</i>	1.16	0.11	2.60	1.03	0.28	2.08
		<i>Lagged Level</i>	2.00	1.04	3.18	1.46	0.59	2.35
Effect of mandate on inflation risk	$\sigma_S$	<i>Change</i>	41.12	24.77	57.65	23.45	11.21	35.89
		<i>Lagged Level</i>	52.88	32.75	73.41	29.48	14.57	44.27
<i>Economic Controls</i>								
M1	$\beta_{M1}$	<i>Change</i>	0.00	-0.07	0.06	0.00	-0.04	0.04
		<i>Lagged Level</i>	-0.02	-0.06	0.01	-0.01	-0.04	0.01
Inflation	$B_{CPI}$	<i>Change</i>	0.25	-0.20	0.72	0.05	-0.26	0.37
		<i>Lagged Level</i>	-0.06	-0.17	0.08	0.00	-0.08	0.10
Unemployment	$B_{UE}$	<i>Change</i>	-0.17	-0.83	0.41	-0.20	-0.63	0.13
		<i>Lagged Level</i>	-0.15	-0.20	-0.10	-0.04	-0.07	-0.01
Industrial Production	$B_{IP}$	<i>Change</i>	0.01	-0.11	0.13	0.00	-0.08	0.08
		<i>Lagged Level</i>	-0.02	-0.05	0.01	-0.02	-0.05	0.00
<i>Technical Parameters</i>								
Lagged Dependent Variable		<i>Change</i>	-0.23	-0.27	-0.19	-0.14	-0.19	-0.09
		<i>Level</i>	-0.34	-0.39	-0.29	-0.19	-0.24	-0.15
Constant			0.37	-0.23	0.96	-0.20	-0.62	0.21
$\sigma_Y$			0.28	0.26	0.30	0.18	0.16	0.20
$\eta$			5.80	4.32	8.34	2.39	1.94	3.01
Mean Log Likelihood			-493.96			-248.64		
Lagrange Multiplier Test (effect of $\varepsilon_{t-1}$ on $\varepsilon_t$ )			0.34	-0.05	0.72	0.31	-0.10	0.69

It may not be clear how covariance in the model relates to observed electoral outcomes, so I elaborate here. Let  $X$  and  $Y$  be random variables such that

$$X = \begin{cases} 1 & \text{if a Democrat is elected President} \\ 0 & \text{if a Republican is elected President} \end{cases} \quad \text{and} \quad Y = \begin{cases} 1 & \text{if Democrats win the Congress} \\ 0 & \text{if Republicans win the Congress} \end{cases}$$

The  $j$ th realization of  $X$  is  $x^j \sim \text{Bernoulli}(p_P^j)$ , a draw from a Bernoulli random variable with mean  $p_P^j$ , which is itself a random variable with mean  $p_P$ . The  $j$ th realization of  $Y$  is  $y^j \sim \text{Bernoulli}(p_C^j)$ , a draw from a Bernoulli random variable with mean  $p_C^j$ , which is itself a random variable with mean  $p_C$ . The probability of a Democratic President and Congress is thus just the expected value of the product of the probabilities of observing each outcome:

$$p_{DD} \equiv \Pr(x^j = 1, y^j = 1) = E(x^j y^j) = E(p_P^j p_C^j)$$

Similarly, the expected values of the other three possible outcomes are

$$p_{DR} \equiv \Pr(x^j = 1, y^j = 0) = E(x^j (1 - y^j)) = E(p_P^j (1 - p_C^j))$$

$$p_{RD} \equiv \Pr(x^j = 0, y^j = 1) = E((1 - x^j) y^j) = E((1 - p_P^j) p_C^j)$$

$$p_{RR} \equiv \Pr(x^j = 0, y^j = 0) = E((1 - x^j)(1 - y^j)) = E((1 - p_P^j)(1 - p_C^j))$$

As mentioned in the text we have reason to believe that  $p_P^j$  and  $p_C^j$  may covary positively or negatively. Theorem 4.5.3 in Casella and Berger (2002, 170) shows that

$\text{Cov}(X, Y) = EXY - \mu_X \mu_Y$ , where  $EXY$  is the joint probability of  $X$  and  $Y$  and  $\mu_X, \mu_Y$  are the mean of  $X$  and  $Y$ . Rearranging,  $EXY = \mu_X \mu_Y + \text{Cov}(X, Y)$ . Thus, in our model

$$E(p_P^j p_C^j) = E(p_P^j) E(p_C^j) + \text{Cov}(p_P^j, p_C^j) = p_P p_C + \text{Cov}(p_P^j, p_C^j).$$

This allows us to rewrite the joint probabilities to take the covariance into account:

$$p_{DD} = E(p_P^j p_C^j) = p_P p_C + \text{Cov}(p_P^j, p_C^j)$$

$$p_{DR} = E(p_P^j (1 - p_C^j)) = p_P (1 - p_C) + \text{Cov}(p_P^j, (1 - p_C^j)) = p_P (1 - p_C) - \text{Cov}(p_P^j, p_C^j)$$

$$p_{RD} = E((1 - p_P^j) p_C^j) = (1 - p_P) p_C + \text{Cov}((1 - p_P^j), p_C^j) = (1 - p_P) p_C - \text{Cov}(p_P^j, p_C^j)$$

$$\begin{aligned} p_{RR} &= E((1 - p_P^j)(1 - p_C^j)) = (1 - p_P)(1 - p_C) + \text{Cov}((1 - p_P^j), (1 - p_C^j)) \\ &= (1 - p_P)(1 - p_C) + \text{Cov}(p_P^j, p_C^j) \end{aligned}$$

Note that  $\text{Cov}(p_P^j, p_C^j)$  is not observed, but we can estimate it from  $n$  observations since

$$E_n(\text{Cov}(p_P^j, p_C^j)) = E_n(E(p_P^j p_C^j) - E(p_P^j) E(p_C^j)) = E(p_P p_C) - E(p_P) E(p_C) = \text{Cov}(p_P, p_C)$$

where  $p_P$  and  $p_C$  are vectors of  $n$  observations of  $p_P^j$  and  $p_C^j$ , respectively.

If we assume the covariance remains fixed for all observations prior to a given election, then:

$$E_n(\text{Cov}(p_P^j, p_C^j)) = \text{Cov}(p_P^j, p_C^j) \quad \forall j$$

and the best estimate for the covariance will thus be  $C_{PC} = \text{Cov}(p_P, p_C)$ . For simplicity I drop the  $j$  subscripts in the article text since there are already a number of relevant subscripts to keep track of.

It may not be obvious that  $E(x^j y^j) = E(p_P^j p_C^j)$ . However, it is important to remember that  $p_P$  and  $p_C$  are themselves random variables. Each day we have one draw from the  $p_P$  distribution and one draw from the  $p_C$  distribution, and these draws determine the probabilities that  $X \sim \text{Bernoulli}(p_P) = 1$  and  $Y \sim \text{Bernoulli}(p_C) = 1$ . Since we have already accounted for the covariance of the election outcomes within the probability distributions  $p_P$  and  $p_C$ , the joint probability of  $X$  and  $Y$  will just be the expectation of the product of these two probability distributions, not their means. Whenever one is in doubt on a basic point like this, one can always use simulation to check the math. Below is a program in R that generates probability distributions for  $p_P$  and  $p_C$  with some fixed covariance  $\text{cov}(p_P, p_C)$ . I use observations from these distributions to generate  $X$  and  $Y$  distributions of election outcomes. I then generate both  $E(XY)$  and  $E(p_P p_C)$ . I run the program 1000 times with randomly drawn values for the means, variances, and covariance of  $p_P$  and  $p_C$ . This data appears on the last pages below. Notice that  $E(XY) = E(p_P p_C)$  for all 1000 combinations, even when the covariance is close to its maximum possible value. Thus, the simulations confirm that the equality holds.

To estimate the covariance  $\text{cov}(p_P, p_C)$  in the model, I use the product moment of the two probability estimates at each time point during the election period measured under the assumption that it remains fixed for each election. Although we can estimate the difference in inflation risk for the two parties  $\sigma_D - \sigma_R$ , neither the absolute level of inflation risk  $\sigma_R$  nor the covariance in inflation risk between the two parties  $c_{DR}$  can be estimated separately. These two parameters always appear together as the term  $\sigma_R - c_{DR}$  in equation (5), which causes the model to become unidentified if we estimate them separately. The same technical difficulty also prevents us from estimating separate variances for each party by chamber.

While it is possible for serial correlation to affect the estimates, analysis of the cross-correlations at several lags suggests that it does not—they do not differ significantly from the zero-lag estimates. Robust covariance estimation with nearest neighbor variance (Wang and Raftery 2002) also yields similar results. Under all of these procedures, the range of the covariances across all elections is very close to zero  $[-0.02, 0.01]$  and does not change significantly for different subsets of each election time series (e.g. the last 20 days before the election). This evidence suggests that covariance should not have much impact on the estimation since there is no evidence that it changes significantly over time. In other words, fixed covariance appears to be a reasonable assumption. The bottom line here is that the substantive findings would probably not change even if we knew the time-varying covariance with certainty.

Finally, it is important to note that one might have an ecological inference problem if we did not assume that the covariance remains fixed for a given election. However, if we do assume it is fixed then we can use all of the individual daily observations of the electoral probabilities to estimate the covariance for the two series. If we did not impose this constraint, then there would be no way to go from the marginal probabilities  $p_P$  and  $p_C$  to the joint probability  $p_{DD}$ . By assuming the covariance is fixed we essentially lock in the relationship between the marginal probabilities and the joint probabilities. In a more perfect world we would observe the joint probabilities directly, but given that the estimated covariance does not appear to change much over time it is doubtful that such observations would significantly change the results.

```

# R Program to simulate E(XY) and compare it to E(pp pc)

# define support for random component of probabilities so they stay between 0 and 1
pp.support <- c(0,1)
pc.support <- c(0,1)

# draw 100 million observations from a uniform distribution with support "pp.support"
# for the probability Dems win the Presidency

pp<-runif(100000000,pp.support[1],pp.support[2])

# let the probability Dems win the Congress be a function of the
# probability Dems win President, depending on convex combination
# of President's probability and an independent probability

alpha <- 0.5 # [0,1] parameter that determines how closely probabilities covary
# alpha = 0 = independent , alpha = 1 = perfectly correlated

pc <- alpha * pp + (1 - alpha) * runif(100000000,pc.support[1],pc.support[2])

# use each randomly generated probability to draw a random election outcome for Pres,
# TRUE = 1 = Dem, FALSE = 0 = Rep

x <- ( pp > runif(100000000,0,1))

# use each randomly generated probability to draw a random election outcome for Cong,
# TRUE = 1 = Dem, FALSE = 0 = Rep

y <- ( pc > runif(100000000,0,1))

# use random election draws to calculate expectation that
# both branches are Dems

E.xy <- mean( x * y )

# calculate means of the randomly generated probabilities that Dems win Pres, House

mean.pp <- mean(pp)
mean.pc <- mean(pc)

# calculate covariance of these two distributions

cov.pppc <- cov(pp,pc)

# calculate joint probability that Dems win House, Pres

E.pp.pc <- mean.pp * mean.pc + cov.pppc

# report results
print(c(mean.pp,mean.pc,cov.pppc,E.pp.pc,E.xy))

```

mean pp	Var pp	mean pc	Var pc	cov pp pc	E pp pc	E XY	mean pp	Var pp	mean pc	Var pc	cov pp pc	E pp pc	E XY	mean pp	Var pp	mean pc	Var pc	cov pp pc	E pp pc	E XY
0.016	0.0000	0.121	0.0002	0.0000	0.0002	0.002	0.359	0.0132	0.699	0.0028	0.0032	0.254	0.254	0.313	0.0027	0.466	0.0071	0.0007	0.147	0.147
0.022	0.0001	0.107	0.0001	0.0000	0.0002	0.002	0.505	0.0367	0.470	0.0079	0.0170	0.254	0.254	0.330	0.0015	0.441	0.0012	0.0011	0.146	0.146
0.047	0.0000	0.080	0.0000	0.0000	0.0004	0.004	0.648	0.0059	0.388	0.0020	0.0033	0.255	0.255	0.237	0.0039	0.613	0.0006	0.0013	0.147	0.147
0.055	0.0007	0.067	0.0007	0.0007	0.0004	0.004	0.489	0.0417	0.514	0.0419	0.0040	0.255	0.255	0.390	0.0021	0.354	0.0041	0.0087	0.147	0.147
0.085	0.0006	0.074	0.0003	0.0005	0.0007	0.007	0.511	0.0347	0.453	0.0157	0.0233	0.255	0.255	0.345	0.0015	0.424	0.0060	0.0009	0.148	0.148
0.049	0.0004	0.157	0.0003	0.0003	0.0008	0.008	0.498	0.0015	0.510	0.0012	0.0013	0.255	0.255	0.530	0.0183	0.277	0.0014	0.0017	0.148	0.148
0.107	0.0001	0.136	0.0001	0.0001	0.015	0.015	0.442	0.0547	0.474	0.0425	0.0481	0.258	0.258	0.429	0.0002	0.346	0.0001	0.0001	0.149	0.149
0.118	0.0011	0.126	0.0004	0.0007	0.016	0.016	0.564	0.0265	0.446	0.0022	0.0063	0.258	0.258	0.393	0.0083	0.361	0.0063	0.0072	0.149	0.149
0.115	0.0007	0.139	0.0010	0.0005	0.016	0.016	0.587	0.0039	0.436	0.0022	0.0024	0.258	0.258	0.318	0.0209	0.414	0.0144	0.0173	0.149	0.149
0.121	0.0041	0.129	0.0036	0.0039	0.019	0.019	0.552	0.0251	0.440	0.0093	0.0151	0.258	0.258	0.311	0.0087	0.476	0.0014	0.0011	0.149	0.149
0.122	0.0012	0.166	0.0039	0.0006	0.021	0.021	0.454	0.0425	0.547	0.0168	0.0108	0.259	0.259	0.440	0.0045	0.335	0.0007	0.0017	0.149	0.149
0.088	0.0023	0.228	0.0077	0.0011	0.021	0.021	0.521	0.0137	0.492	0.0055	0.0030	0.259	0.259	0.721	0.0172	0.206	0.0001	0.0008	0.149	0.149
0.097	0.0005	0.220	0.0010	0.0004	0.022	0.022	0.746	0.0082	0.348	0.0043	0.0001	0.259	0.259	0.305	0.0161	0.472	0.0255	0.0054	0.149	0.149
0.129	0.0028	0.166	0.0018	0.0018	0.023	0.023	0.431	0.0348	0.601	0.0462	0.0014	0.260	0.260	0.339	0.0330	0.373	0.0175	0.0240	0.150	0.150
0.069	0.0007	0.349	0.0044	0.0002	0.024	0.024	0.426	0.0191	0.597	0.0038	0.0066	0.261	0.261	0.405	0.0005	0.371	0.0005	0.0004	0.151	0.151
0.082	0.0004	0.291	0.0007	0.0003	0.024	0.024	0.742	0.0187	0.348	0.0096	0.0024	0.261	0.261	0.316	0.0021	0.478	0.0159	0.0005	0.152	0.152
0.147	0.0026	0.150	0.0025	0.0026	0.025	0.025	0.485	0.0002	0.538	0.0027	0.0002	0.261	0.261	0.367	0.0098	0.403	0.0076	0.0051	0.153	0.153
0.134	0.0000	0.199	0.0003	0.0000	0.027	0.027	0.498	0.0760	0.432	0.0280	0.0459	0.261	0.261	0.352	0.0142	0.408	0.0066	0.0095	0.153	0.153
0.054	0.0003	0.496	0.0259	0.0000	0.027	0.027	0.461	0.0008	0.566	0.0285	0.0002	0.261	0.261	0.399	0.0001	0.384	0.0002	0.0001	0.153	0.153
0.151	0.0032	0.159	0.0027	0.0029	0.027	0.027	0.460	0.0360	0.514	0.0208	0.0253	0.262	0.262	0.318	0.0138	0.468	0.0274	0.0051	0.154	0.154
0.143	0.0055	0.152	0.0053	0.0054	0.027	0.027	0.474	0.0268	0.502	0.0219	0.0242	0.262	0.262	0.414	0.0050	0.375	0.0135	0.0001	0.155	0.155
0.130	0.0046	0.198	0.0029	0.0015	0.027	0.027	0.520	0.0139	0.494	0.0046	0.0053	0.262	0.262	0.359	0.0267	0.364	0.0250	0.0259	0.156	0.156
0.134	0.0004	0.205	0.0007	0.0003	0.028	0.028	0.423	0.0422	0.594	0.0070	0.0140	0.265	0.265	0.255	0.0074	0.609	0.0032	0.0019	0.157	0.157
0.078	0.0007	0.354	0.0149	0.0003	0.028	0.028	0.571	0.0241	0.449	0.0159	0.0089	0.266	0.266	0.423	0.0007	0.371	0.0004	0.0005	0.158	0.158
0.111	0.0016	0.250	0.0080	0.0010	0.029	0.029	0.704	0.0008	0.377	0.0012	0.0003	0.266	0.266	0.387	0.0098	0.402	0.0100	0.0037	0.159	0.159
0.115	0.0023	0.247	0.0034	0.0005	0.029	0.029	0.509	0.0129	0.499	0.0117	0.0123	0.266	0.266	0.396	0.0008	0.400	0.0014	0.0007	0.159	0.159
0.132	0.0050	0.197	0.0020	0.0031	0.029	0.029	0.527	0.0278	0.485	0.0056	0.0105	0.266	0.266	0.358	0.0160	0.407	0.0119	0.0136	0.159	0.159
0.250	0.0097	0.114	0.0005	0.0014	0.030	0.030	0.497	0.0278	0.497	0.0200	0.0198	0.267	0.267	0.372	0.0126	0.398	0.0107	0.0115	0.160	0.160
0.146	0.0004	0.211	0.0003	0.0003	0.031	0.031	0.451	0.0647	0.484	0.0383	0.0484	0.267	0.267	0.523	0.0452	0.278	0.0048	0.0140	0.160	0.160
0.145	0.0002	0.216	0.0021	0.0001	0.031	0.031	0.545	0.0069	0.485	0.0081	0.0031	0.267	0.267	0.316	0.0165	0.483	0.0052	0.0073	0.160	0.160
0.152	0.0000	0.207	0.0021	0.0000	0.031	0.031	0.567	0.0616	0.468	0.0013	0.0001	0.268	0.268	0.471	0.0071	0.339	0.0205	0.0009	0.160	0.160
0.584	0.0238	0.055	0.0000	0.0001	0.032	0.032	0.602	0.0279	0.444	0.0065	0.0011	0.268	0.268	0.553	0.0091	0.286	0.0009	0.0027	0.161	0.161
0.446	0.0348	0.070	0.0001	0.0010	0.032	0.032	0.450	0.0604	0.520	0.0259	0.0341	0.268	0.268	0.302	0.0291	0.491	0.0077	0.0134	0.162	0.162
0.213	0.0001	0.155	0.0001	0.0001	0.033	0.033	0.506	0.0152	0.517	0.0082	0.0077	0.269	0.269	0.373	0.0119	0.406	0.0096	0.0099	0.162	0.162
0.158	0.0029	0.205	0.0063	0.0010	0.033	0.033	0.439	0.0485	0.536	0.0254	0.0340	0.269	0.269	0.403	0.0052	0.391	0.0036	0.0042	0.162	0.162
0.089	0.0006	0.372	0.0126	0.0002	0.033	0.033	0.455	0.0673	0.462	0.0537	0.0598	0.270	0.270	0.347	0.0106	0.462	0.0177	0.0023	0.163	0.163
0.048	0.0002	0.692	0.0106	0.0000	0.033	0.033	0.420	0.0512	0.577	0.0159	0.0284	0.271	0.271	0.309	0.0040	0.528	0.0357	0.0002	0.163	0.163
0.136	0.0020	0.250	0.0015	0.0002	0.034	0.034	0.626	0.0243	0.411	0.0080	0.0136	0.271	0.271	0.323	0.0138	0.490	0.0032	0.0051	0.163	0.163
0.167	0.0005	0.214	0.0078	0.0002	0.036	0.036	0.476	0.0300	0.528	0.0135	0.0196	0.271	0.271	0.308	0.0201	0.530	0.0057	0.0003	0.163	0.163
0.153	0.0003	0.234	0.0034	0.0001	0.036	0.036	0.432	0.0060	0.626	0.0041	0.0011	0.271	0.271	0.378	0.0069	0.416	0.0055	0.0061	0.163	0.163
0.172	0.0022	0.201	0.0027	0.0018	0.036	0.036	0.418	0.0053	0.642	0.0019	0.0028	0.271	0.271	0.410	0.0010	0.397	0.0009	0.0008	0.164	0.164
0.179	0.0029	0.192	0.0027	0.0028	0.037	0.037	0.516	0.0008	0.526	0.0089	0.0003	0.272	0.272	0.393	0.0036	0.415	0.0184	0.0009	0.164	0.164
0.197	0.0031	0.186	0.0013	0.0012	0.038	0.038	0.458	0.0535	0.488	0.0434	0.0482	0.272	0.272	0.386	0.0445	0.350	0.0199	0.0297	0.165	0.165
0.178	0.0020	0.210	0.0012	0.0012	0.038	0.038	0.529	0.0080	0.508	0.0166	0.0037	0.272	0.272	0.362	0.0436	0.424	0.0042	0.0110	0.165	0.165
0.155	0.0005	0.251	0.0018	0.0001	0.039	0.039	0.769	0.0154	0.352	0.0020	0.0017	0.272	0.272	0.394	0.0241	0.418	0.0240	0.0006	0.166	0.166
0.297	0.0018	0.131	0.0011	0.0001	0.039	0.039	0.452	0.0113	0.594	0.0020	0.0047	0.273	0.273	0.314	0.0025	0.530	0.0409	0.0003	0.166	0.166
0.248	0.0063	0.157	0.0010	0.0012	0.040	0.040	0.484	0.0538	0.495	0.0248	0.0345	0.274	0.274	0.477	0.0320	0.312	0.0108	0.0184	0.167	0.167
0.198	0.0012	0.202	0.0011	0.0011	0.041	0.041	0.472	0.0563	0.506	0.0280	0.0349	0.274	0.274	0.368	0.0218	0.445	0.0157	0.0033	0.167	0.167
0.169	0.0000	0.252	0.0028	0.0000	0.043	0.043	0.520	0.0367	0.484	0.0138	0.0224	0.274	0.274	0.340	0.0044	0.486	0.0018	0.0028	0.168	0.168
0.071	0.0004	0.606	0.0009	0.0001	0.043	0.043	0.799	0.0012	0.343	0.0001	0.0004	0.274	0.274	0.345	0.0025	0.487	0.0008	0.0011	0.169	0.169
0.188	0.0000	0.230	0.0055	0.0000	0.043	0.043	0.472	0.0603	0.477	0.0246	0.0506	0.276	0.276	0.304	0.0050	0.555	0.0508	0.0003	0.169	0.169
0.173	0.0002	0.257	0.0029	0.0000	0.044	0.044	0.473	0.0594	0.515	0.0256	0.0339	0.277	0.277	0.554	0.0144	0.300	0.0053	0.0028	0.169	0.169
0.256	0.0033	0.168	0.0005	0.0013	0.044	0.044	0.390	0.0465	0.654	0.0117	0.0231	0.278	0.278	0.287	0.0011	0.588	0.0004	0.0005	0.169	0.169
0.141	0.0012	0.318	0.0141	0.0006	0.045	0.045	0.520	0.0408	0.500	0.0201	0.0181	0.278	0.278	0.343	0.0362	0.417	0.0201	0.0267	0.170	0.170
0.210	0.0031	0.205	0.0025	0.0028	0.046															



0.473	0.0369	0.179	0.0006	0.0041	0.089	0.089	0.552	0.0061	0.556	0.0039	0.0040	0.311	0.311	0.415	0.0415	0.406	0.0267	0.0324	0.201	0.201
0.188	0.0004	0.470	0.0004	0.0002	0.089	0.089	0.541	0.0165	0.566	0.0081	0.0046	0.311	0.311	0.419	0.0540	0.397	0.0242	0.0350	0.202	0.202
0.297	0.0011	0.296	0.0011	0.0011	0.089	0.089	0.657	0.0020	0.475	0.0153	0.0004	0.312	0.312	0.313	0.0054	0.636	0.0013	0.0022	0.202	0.202
0.229	0.0108	0.365	0.0047	0.0067	0.090	0.090	0.619	0.0452	0.476	0.0168	0.0173	0.312	0.312	0.271	0.0006	0.745	0.0005	0.0001	0.202	0.202
0.284	0.0077	0.296	0.0057	0.0066	0.091	0.091	0.475	0.0559	0.604	0.0126	0.0255	0.313	0.313	0.719	0.0176	0.277	0.0077	0.0031	0.202	0.202
0.210	0.0064	0.427	0.0133	0.0012	0.091	0.091	0.540	0.0551	0.525	0.0167	0.0295	0.313	0.313	0.488	0.0207	0.389	0.0075	0.0124	0.202	0.202
0.228	0.0156	0.358	0.0068	0.0098	0.091	0.091	0.484	0.0713	0.533	0.0442	0.0554	0.313	0.313	0.431	0.0112	0.466	0.0139	0.0014	0.203	0.203
0.277	0.0003	0.332	0.0057	0.0002	0.092	0.092	0.532	0.0296	0.553	0.0123	0.0191	0.314	0.314	0.492	0.0073	0.405	0.0090	0.0037	0.203	0.203
0.237	0.0093	0.381	0.0244	0.0027	0.093	0.093	0.704	0.0039	0.445	0.0268	0.0009	0.314	0.314	0.409	0.0010	0.495	0.0001	0.0003	0.203	0.203
0.260	0.0132	0.333	0.0034	0.0065	0.093	0.093	0.516	0.0000	0.608	0.0034	0.0000	0.314	0.314	0.287	0.0171	0.694	0.0024	0.0042	0.203	0.203
0.464	0.0339	0.191	0.0051	0.0050	0.094	0.094	0.672	0.0077	0.462	0.0130	0.0130	0.314	0.314	0.428	0.0002	0.478	0.0019	0.0001	0.204	0.204
0.396	0.0034	0.233	0.0127	0.0001	0.094	0.094	0.570	0.0093	0.538	0.0069	0.0079	0.315	0.315	0.632	0.0022	0.323	0.0240	0.0000	0.204	0.204
0.316	0.0044	0.296	0.0016	0.0017	0.095	0.095	0.575	0.0009	0.546	0.0007	0.0059	0.315	0.315	0.435	0.0172	0.433	0.0151	0.0161	0.204	0.204
0.271	0.0184	0.345	0.0033	0.0032	0.097	0.097	0.514	0.0607	0.509	0.0471	0.0534	0.315	0.315	0.417	0.0144	0.478	0.0238	0.0053	0.204	0.204
0.300	0.0099	0.296	0.0075	0.0083	0.097	0.097	0.925	0.0002	0.340	0.0029	0.0000	0.315	0.315	0.417	0.0223	0.456	0.0102	0.0148	0.205	0.205
0.213	0.0002	0.458	0.0168	0.0001	0.098	0.098	0.540	0.0484	0.528	0.0228	0.0301	0.315	0.315	0.433	0.0177	0.434	0.0171	0.0174	0.205	0.205
0.175	0.0028	0.555	0.0029	0.0006	0.098	0.098	0.717	0.0017	0.438	0.0041	0.0008	0.315	0.315	0.345	0.0032	0.591	0.0074	0.0100	0.205	0.205
0.270	0.0235	0.326	0.0128	0.0100	0.098	0.098	0.535	0.0015	0.587	0.0006	0.0009	0.315	0.315	0.457	0.0003	0.450	0.0028	0.0002	0.206	0.206
0.461	0.0118	0.212	0.0045	0.0006	0.098	0.098	0.714	0.0199	0.432	0.0047	0.0071	0.316	0.316	0.482	0.0007	0.428	0.0019	0.0001	0.207	0.207
0.295	0.0096	0.306	0.0072	0.0080	0.098	0.098	0.645	0.0027	0.488	0.0011	0.0016	0.316	0.316	0.477	0.0012	0.433	0.0001	0.0000	0.207	0.207
0.155	0.0049	0.636	0.0186	0.0001	0.098	0.098	0.657	0.0040	0.479	0.0161	0.0014	0.316	0.316	0.361	0.0100	0.557	0.0038	0.0061	0.207	0.207
0.287	0.0125	0.304	0.0107	0.0113	0.098	0.098	0.528	0.0325	0.540	0.0299	0.0312	0.316	0.316	0.411	0.0090	0.491	0.0050	0.0061	0.208	0.208
0.247	0.0201	0.360	0.0155	0.0099	0.099	0.099	0.643	0.0183	0.480	0.0114	0.0077	0.317	0.317	0.668	0.0295	0.308	0.0006	0.0018	0.208	0.208
0.292	0.0022	0.334	0.0024	0.0018	0.099	0.099	0.588	0.0000	0.540	0.0114	0.0000	0.318	0.318	0.646	0.0104	0.322	0.0006	0.0014	0.209	0.209
0.271	0.0039	0.367	0.0033	0.0028	0.102	0.102	0.826	0.0003	0.385	0.0070	0.0000	0.318	0.318	0.459	0.0076	0.445	0.0046	0.0058	0.210	0.210
0.290	0.0049	0.338	0.0036	0.0041	0.102	0.102	0.758	0.0081	0.420	0.0025	0.0008	0.320	0.320	0.707	0.0457	0.421	0.0331	0.0389	0.210	0.210
0.261	0.0193	0.392	0.0432	0.0005	0.103	0.103	0.614	0.0027	0.519	0.0066	0.0015	0.320	0.320	0.436	0.0151	0.285	0.0003	0.0006	0.211	0.211
0.262	0.0174	0.339	0.0122	0.0144	0.103	0.103	0.561	0.0023	0.570	0.0272	0.0002	0.320	0.320	0.435	0.0265	0.427	0.0243	0.0254	0.211	0.211
0.257	0.0161	0.360	0.0112	0.0113	0.104	0.104	0.526	0.0600	0.509	0.0458	0.0522	0.320	0.320	0.391	0.0203	0.514	0.0064	0.0108	0.212	0.212
0.187	0.0115	0.552	0.0155	0.0001	0.104	0.104	0.501	0.0749	0.521	0.0486	0.0595	0.321	0.321	0.470	0.0531	0.368	0.0297	0.0396	0.213	0.213
0.287	0.0003	0.362	0.0052	0.0002	0.104	0.104	0.438	0.0000	0.733	0.0056	0.0000	0.321	0.321	0.459	0.0018	0.460	0.0017	0.0017	0.213	0.213
0.193	0.0097	0.532	0.0004	0.0018	0.105	0.105	0.556	0.0208	0.573	0.0398	0.0024	0.321	0.321	0.550	0.0604	0.351	0.0088	0.0202	0.213	0.213
0.243	0.0002	0.431	0.0009	0.0001	0.105	0.105	0.822	0.0100	0.388	0.0070	0.0026	0.321	0.321	0.471	0.0007	0.451	0.0021	0.0006	0.213	0.213
0.236	0.0083	0.423	0.0043	0.0054	0.105	0.105	0.594	0.0144	0.538	0.0019	0.0020	0.321	0.321	0.462	0.0006	0.461	0.0000	0.0000	0.213	0.213
0.306	0.0297	0.275	0.0162	0.0215	0.106	0.106	0.702	0.0219	0.452	0.0187	0.0044	0.322	0.322	0.463	0.0064	0.449	0.0055	0.0059	0.214	0.214
0.333	0.0061	0.304	0.0048	0.0054	0.106	0.106	0.644	0.0376	0.479	0.0074	0.0132	0.322	0.322	0.378	0.0032	0.561	0.0024	0.0018	0.214	0.214
0.306	0.0289	0.338	0.0031	0.0033	0.107	0.107	0.575	0.0071	0.551	0.0041	0.0053	0.322	0.322	0.317	0.0103	0.663	0.0024	0.0044	0.214	0.214
0.305	0.0005	0.351	0.0110	0.0001	0.107	0.107	0.563	0.0591	0.518	0.0175	0.0310	0.322	0.322	0.416	0.0467	0.423	0.0327	0.0387	0.215	0.215
0.242	0.0036	0.436	0.0177	0.0014	0.107	0.107	0.621	0.0017	0.517	0.0012	0.0012	0.323	0.323	0.411	0.0094	0.504	0.0062	0.0076	0.215	0.215
0.329	0.0002	0.325	0.0002	0.0001	0.107	0.107	0.447	0.0424	0.685	0.0077	0.0172	0.323	0.323	0.354	0.0391	0.528	0.0202	0.0281	0.215	0.215
0.585	0.0268	0.172	0.0020	0.0074	0.108	0.108	0.573	0.0179	0.536	0.0150	0.0164	0.324	0.324	0.461	0.0121	0.446	0.0102	0.0111	0.216	0.216
0.291	0.0274	0.335	0.0133	0.0104	0.108	0.108	0.589	0.0078	0.542	0.0060	0.0063	0.326	0.326	0.483	0.0661	0.376	0.0197	0.0349	0.217	0.217
0.297	0.0198	0.344	0.0143	0.0080	0.110	0.110	0.568	0.0014	0.572	0.0013	0.0013	0.326	0.326	0.460	0.0102	0.454	0.0082	0.0084	0.217	0.217
0.323	0.0025	0.338	0.0007	0.0009	0.110	0.110	0.606	0.0371	0.514	0.0146	0.0159	0.327	0.327	0.408	0.0073	0.524	0.0050	0.0037	0.217	0.217
0.388	0.0086	0.285	0.0096	0.0012	0.112	0.112	0.554	0.0007	0.591	0.0030	0.0005	0.328	0.328	0.442	0.0057	0.489	0.0076	0.0022	0.218	0.218
0.245	0.0182	0.434	0.0401	0.0054	0.112	0.112	0.559	0.0199	0.552	0.0186	0.0192	0.328	0.328	0.353	0.0143	0.610	0.0007	0.0027	0.218	0.218
0.304	0.0129	0.334	0.0090	0.0107	0.112	0.112	0.683	0.0037	0.483	0.0009	0.0005	0.330	0.330	0.363	0.0001	0.601	0.0000	0.0000	0.218	0.218
0.290	0.0114	0.355	0.0079	0.0094	0.112	0.112	0.503	0.0313	0.613	0.0158	0.0220	0.330	0.330	0.449	0.0061	0.477	0.0049	0.0053	0.220	0.220
0.255	0.0137	0.434	0.0141	0.0017	0.112	0.112	0.560	0.0052	0.587	0.0044	0.0025	0.331	0.331	0.645	0.0003	0.341	0.0006	0.0000	0.220	0.220
0.239	0.0046	0.465	0.0237	0.0013	0.113	0.113	0.544	0.0047	0.607	0.0176	0.0012	0.331	0.331	0.518	0.0730	0.408	0.0025	0.0088	0.220	0.220
0.246	0.0051	0.443	0.0024	0.0035	0.112	0.112	0.712	0.0104	0.461	0.0072	0.0039	0.332	0.332	0.446	0.0463	0.439	0.0126	0.0241	0.220	0.220
0.301	0.0037	0.364	0.0040	0.0030	0.113	0.113	0.551	0.0213	0.577	0.0128	0.0145	0.332	0.332	0.446	0.0258	0.449	0.0177	0.0211	0.221	0.221
0.219	0.0029	0.512	0.0007	0.0011	0.113	0.113	0.545	0.0245	0.575	0.0155	0.0195	0.333	0.333	0.537	0.0082	0.403	0.0040	0.0052	0.221	0.221
0.289	0.0016	0.390	0.0011	0.0012	0.114	0.114	0.571	0.0444	0.541	0.0191	0.0241	0.333	0.333	0.400	0.0031	0.554	0.0007	0.0013	0.223	0.223
0.169	0.0034	0.677	0.0249	0.0001	0.114	0.114	0.502	0.0647	0.625	0.0076	0.0213	0.335	0.335	0.468	0.0157	0.446	0.0127	0.0141	0.223	0.223
0.303	0.0074	0																		

0.373	0.0433	0.307	0.0197	0.0287	0.143	0.143	0.758	0.0134	0.481	0.0095	0.0034	0.368	0.368	0.459	0.0463	0.456	0.0413	0.0437	0.253	0.253
0.475	0.0315	0.287	0.0040	0.0075	0.144	0.144	0.529	0.0657	0.602	0.0384	0.0503	0.369	0.369	0.580	0.0129	0.428	0.0082	0.0051	0.253	0.253
0.356	0.0105	0.380	0.0091	0.0096	0.145	0.145	0.569	0.0454	0.570	0.0441	0.0448	0.369	0.369	0.410	0.0090	0.614	0.0144	0.0014	0.253	0.253
0.333	0.0000	0.440	0.0282	0.0000	0.146	0.146	0.625	0.0268	0.558	0.0181	0.0219	0.370	0.370	0.410	0.0090	0.614	0.0144	0.0014	0.253	0.253
0.704	0.0028	0.525	0.0045	0.0012	0.371	0.371	0.678	0.0152	0.617	0.0117	0.0133	0.431	0.431	0.736	0.0008	0.717	0.0007	0.0007	0.528	0.528
0.599	0.0040	0.616	0.0103	0.0019	0.371	0.371	0.638	0.0001	0.678	0.0001	0.0001	0.433	0.433	0.713	0.0227	0.724	0.0127	0.0157	0.528	0.532
0.630	0.0075	0.585	0.0028	0.0030	0.371	0.371	0.620	0.0095	0.687	0.0050	0.0069	0.433	0.433	0.811	0.0105	0.650	0.0039	0.0054	0.532	0.532
0.691	0.0001	0.538	0.0000	0.0000	0.371	0.371	0.584	0.0332	0.737	0.0013	0.0060	0.436	0.436	0.839	0.0052	0.634	0.0022	0.0019	0.534	0.534
0.850	0.0066	0.437	0.0382	0.0005	0.371	0.371	0.625	0.0185	0.682	0.0074	0.0117	0.438	0.438	0.779	0.0155	0.676	0.0080	0.0078	0.534	0.534
0.685	0.0053	0.545	0.0020	0.0020	0.375	0.375	0.637	0.0378	0.631	0.0342	0.0360	0.438	0.438	0.694	0.0100	0.770	0.0013	0.0031	0.538	0.538
0.586	0.0569	0.626	0.0035	0.0092	0.376	0.376	0.514	0.0669	0.842	0.0011	0.0058	0.438	0.438	0.801	0.0074	0.666	0.0048	0.0058	0.539	0.539
0.614	0.0026	0.610	0.0026	0.0022	0.377	0.377	0.615	0.0421	0.697	0.0126	0.0096	0.438	0.438	0.803	0.0029	0.671	0.0028	0.0012	0.539	0.539
0.740	0.0152	0.503	0.0032	0.0065	0.379	0.379	0.656	0.0354	0.623	0.0266	0.0303	0.439	0.439	0.816	0.0007	0.663	0.0073	0.0000	0.541	0.541
0.599	0.0227	0.595	0.0221	0.0224	0.379	0.379	0.777	0.0016	0.567	0.0055	0.0001	0.441	0.441	0.729	0.0147	0.725	0.0133	0.0139	0.542	0.542
0.454	0.0121	0.835	0.0006	0.0006	0.380	0.380	0.684	0.0061	0.640	0.0043	0.0051	0.443	0.443	0.708	0.0009	0.765	0.0072	0.0002	0.542	0.542
0.809	0.0027	0.469	0.0014	0.0009	0.380	0.380	0.749	0.0113	0.587	0.0182	0.0049	0.445	0.445	0.759	0.0070	0.713	0.0008	0.0019	0.543	0.543
0.510	0.0508	0.705	0.0092	0.0203	0.380	0.380	0.633	0.0058	0.702	0.0055	0.0019	0.446	0.446	0.727	0.0238	0.721	0.0174	0.0202	0.545	0.545
0.616	0.0006	0.617	0.0005	0.0005	0.380	0.380	0.831	0.0080	0.538	0.0335	0.0005	0.448	0.448	0.756	0.0041	0.720	0.0034	0.0031	0.547	0.547
0.855	0.0016	0.448	0.0041	0.0005	0.383	0.383	0.837	0.0009	0.536	0.0105	0.0003	0.449	0.449	0.816	0.0000	0.683	0.0010	0.0000	0.557	0.557
0.637	0.0049	0.595	0.0038	0.0043	0.384	0.384	0.679	0.0009	0.660	0.0009	0.0009	0.449	0.449	0.759	0.0153	0.719	0.0134	0.0143	0.560	0.560
0.762	0.0029	0.504	0.0030	0.0014	0.385	0.385	0.918	0.0003	0.489	0.0002	0.0001	0.449	0.449	0.657	0.0279	0.851	0.0029	0.0090	0.568	0.568
0.647	0.0167	0.574	0.0120	0.0140	0.385	0.385	0.745	0.0113	0.592	0.0065	0.0082	0.450	0.450	0.718	0.0185	0.783	0.0019	0.0059	0.568	0.568
0.624	0.0055	0.610	0.0050	0.0052	0.386	0.386	0.632	0.0223	0.691	0.0098	0.0131	0.450	0.450	0.615	0.0022	0.923	0.0001	0.0004	0.568	0.568
0.832	0.0089	0.462	0.0019	0.0027	0.387	0.387	0.804	0.0078	0.555	0.0023	0.0042	0.450	0.450	0.792	0.0000	0.720	0.0009	0.0000	0.570	0.570
0.831	0.0023	0.466	0.0006	0.0004	0.387	0.387	0.635	0.0007	0.711	0.0090	0.0002	0.452	0.452	0.767	0.0001	0.744	0.0004	0.0001	0.571	0.571
0.630	0.0166	0.607	0.0219	0.0050	0.387	0.387	0.673	0.0064	0.664	0.0061	0.0062	0.453	0.453	0.754	0.0038	0.760	0.0076	0.0013	0.574	0.574
0.656	0.0109	0.580	0.0080	0.0088	0.388	0.388	0.657	0.0034	0.694	0.0004	0.0002	0.456	0.456	0.868	0.0033	0.660	0.0099	0.0017	0.574	0.574
0.560	0.0079	0.686	0.0034	0.0048	0.389	0.389	0.723	0.0247	0.632	0.0082	0.0012	0.458	0.458	0.816	0.0099	0.701	0.0025	0.0036	0.576	0.576
0.832	0.0000	0.467	0.0079	0.0000	0.389	0.389	0.678	0.0234	0.651	0.0133	0.0171	0.459	0.459	0.837	0.0080	0.691	0.0010	0.0026	0.581	0.581
0.534	0.0589	0.655	0.0263	0.0393	0.389	0.389	0.705	0.0290	0.635	0.0087	0.0111	0.459	0.459	0.768	0.0031	0.754	0.0028	0.0029	0.582	0.582
0.664	0.0060	0.580	0.0041	0.0045	0.389	0.389	0.670	0.0103	0.672	0.0093	0.0098	0.460	0.460	0.797	0.0002	0.732	0.0001	0.0001	0.584	0.584
0.528	0.0000	0.740	0.0043	0.0000	0.390	0.390	0.596	0.0171	0.771	0.0099	0.0013	0.461	0.461	0.784	0.0041	0.745	0.0097	0.0009	0.585	0.585
0.609	0.0062	0.637	0.0031	0.0042	0.392	0.392	0.773	0.0005	0.595	0.0007	0.0003	0.461	0.461	0.876	0.0005	0.674	0.0031	0.0001	0.590	0.590
0.623	0.0058	0.621	0.0057	0.0057	0.393	0.393	0.776	0.0112	0.585	0.0042	0.0065	0.461	0.461	0.849	0.0006	0.696	0.0001	0.0003	0.591	0.591
0.630	0.0088	0.610	0.0077	0.0082	0.393	0.393	0.762	0.0000	0.608	0.0040	0.0000	0.463	0.463	0.789	0.0039	0.753	0.0065	0.0015	0.595	0.595
0.672	0.0182	0.584	0.0127	0.0020	0.395	0.395	0.688	0.0014	0.675	0.0013	0.0013	0.466	0.466	0.775	0.0003	0.771	0.0003	0.0003	0.597	0.597
0.626	0.0011	0.630	0.0016	0.0009	0.395	0.395	0.698	0.0007	0.667	0.0006	0.0006	0.466	0.466	0.799	0.0016	0.747	0.0026	0.0013	0.598	0.598
0.704	0.0041	0.559	0.0212	0.0018	0.395	0.395	0.804	0.0020	0.579	0.0009	0.0013	0.467	0.467	0.772	0.0056	0.769	0.0053	0.0054	0.599	0.599
0.738	0.0029	0.535	0.0242	0.0008	0.396	0.396	0.677	0.0125	0.675	0.0123	0.0124	0.470	0.470	0.769	0.0153	0.766	0.0068	0.0101	0.599	0.599
0.614	0.0247	0.609	0.0209	0.0227	0.396	0.396	0.681	0.0086	0.678	0.0084	0.0085	0.471	0.471	0.793	0.0005	0.766	0.0005	0.0005	0.607	0.607
0.719	0.0009	0.551	0.0141	0.0004	0.396	0.396	0.816	0.0002	0.578	0.0038	0.0001	0.472	0.472	0.946	0.0000	0.652	0.0036	0.0000	0.617	0.617
0.587	0.0474	0.620	0.0225	0.0325	0.397	0.397	0.593	0.0096	0.799	0.0062	0.0003	0.474	0.474	0.792	0.0100	0.770	0.0067	0.0079	0.618	0.618
0.704	0.0290	0.547	0.0239	0.0126	0.397	0.397	0.649	0.0396	0.685	0.0252	0.0315	0.476	0.476	0.869	0.0044	0.710	0.0026	0.0020	0.619	0.619
0.592	0.0394	0.620	0.0241	0.0299	0.397	0.397	0.671	0.0201	0.709	0.0063	0.0004	0.476	0.476	0.881	0.0000	0.710	0.0101	0.0000	0.626	0.626
0.490	0.0140	0.808	0.0003	0.0022	0.398	0.398	0.646	0.0029	0.735	0.0014	0.0019	0.477	0.477	0.831	0.0019	0.753	0.0020	0.0015	0.627	0.627
0.572	0.0450	0.677	0.0067	0.0118	0.399	0.399	0.595	0.0289	0.799	0.0043	0.0034	0.478	0.478	0.788	0.0094	0.789	0.0080	0.0087	0.630	0.630
0.620	0.0293	0.616	0.0109	0.0171	0.399	0.399	0.808	0.0111	0.585	0.0056	0.0059	0.478	0.478	0.811	0.0024	0.785	0.0014	0.0017	0.638	0.638
0.544	0.0305	0.730	0.0165	0.0032	0.400	0.400	0.873	0.0020	0.550	0.0084	0.0008	0.481	0.481	0.820	0.0000	0.785	0.0004	0.0000	0.644	0.644
0.658	0.0011	0.607	0.0005	0.0007	0.400	0.400	0.688	0.0007	0.702	0.0032	0.0004	0.483	0.483	0.821	0.0056	0.782	0.0030	0.0029	0.645	0.645
0.610	0.0496	0.586	0.0385	0.0433	0.401	0.401	0.909	0.0001	0.534	0.0026	0.0000	0.486	0.486	0.803	0.0011	0.803	0.0011	0.0011	0.646	0.646
0.640	0.0192	0.602	0.0143	0.0160	0.401	0.401	0.775	0.0013	0.626	0.0052	0.0003	0.486	0.486	0.828	0.0092	0.783	0.0065	0.0001	0.648	0.648
0.594	0.0306	0.675	0.0165	0.0017	0.402	0.402	0.599	0.0001	0.612	0.0000	0.0000	0.486	0.486	0.823	0.0005	0.788	0.0005	0.0004	0.649	0.649
0.734	0.0131	0.544	0.0013	0.0036	0.403	0.403	0.696	0.0287	0.665	0.0212	0.0247	0.487	0.487	0.833	0.0035	0.782	0.0030	0.0032	0.655	0.655
0.584	0.0448	0.632	0.0259	0.0341	0.403	0.403	0.691	0.0051	0.700	0.0033	0.0041	0.488	0.488	0.911	0.0013	0.719	0.0204	0.0005	0.655	0.655
0.653	0.0135	0.618	0.0326	0.0016	0.405	0.405	0.579	0.0166	0.839	0.0009	0.0025	0.488	0.488	0.820	0.0058	0.802	0.0036	0.0043	0.662	0.662
0.649	0.0255	0.591	0.0188	0.0219	0.405	0.405	0.694	0.												