

C.3

LA-3169

CIC-14 REPORT COLLECTION
**REPRODUCTION
COPY**

**LOS ALAMOS SCIENTIFIC LABORATORY
OF THE UNIVERSITY OF CALIFORNIA ◦ LOS ALAMOS NEW MEXICO**

**A METHOD FOR ESTIMATING FRACTIONAL YIELDS
FROM LOW- AND MEDIUM-ENERGY NEUTRON
INDUCED FISSION**



LEGAL NOTICE

This report was prepared as an account of Government sponsored work. Neither the United States, nor the Commission, nor any person acting on behalf of the Commission:

A. Makes any warranty or representation, expressed or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this report, or that the use of any information, apparatus, method, or process disclosed in this report may not infringe privately owned rights; or

B. Assumes any liabilities with respect to the use of, or for damages resulting from the use of any information, apparatus, method, or process disclosed in this report.

As used in the above, "person acting on behalf of the Commission" includes any employee or contractor of the Commission, or employee of such contractor, to the extent that such employee or contractor of the Commission, or employee of such contractor prepares, disseminates, or provides access to, any information pursuant to his employment or contract with the Commission, or his employment with such contractor.

Printed in USA. Price \$2.00. Available from the

Clearinghouse for Federal Scientific
and Technical Information,
National Bureau of Standards,
U. S. Department of Commerce,
Springfield, Virginia

LA-3169
UC-4, CHEMISTRY
TID-4500 (35th Ed.)

LOS ALAMOS SCIENTIFIC LABORATORY
OF THE UNIVERSITY OF CALIFORNIA LOS ALAMOS NEW MEXICO

REPORT WRITTEN: September 1964

REPORT DISTRIBUTED: January 12, 1965

**A METHOD FOR ESTIMATING FRACTIONAL YIELDS
FROM LOW- AND MEDIUM-ENERGY NEUTRON
INDUCED FISSION**

by

Kurt Wolfsberg



This report expresses the opinions of the author or authors and does not necessarily reflect the opinions or views of the Los Alamos Scientific Laboratory.

Contract W-7405-ENG. 36 with the U. S. Atomic Energy Commission



ABSTRACT

A method is given for estimating fractional yields of products from low- and medium-energy neutron induced fission. The method is based on experimental measurements of some fractional independent and cumulative yields, and involves the assumption that yields of products along beta-decay chains are described by a Gaussian function with the same width (σ) for all mass numbers.

Equations are given for estimating Z_p , "the most probable charge." Fractional yields may be obtained from a table which lists fractional yields as a function of $Z - Z_p$.



Although cumulative yields of many long-lived, late members of fission product chains are known for a number of fission processes from experimental measurements, the yields of most of the short-lived, earlier members have not been measured. The measured fractional yields for thermal neutron fission of U^{233} , U^{235} , and Pu^{239} and for 14-MeV neutron fission of U^{235} and U^{238} are summarized in references 1 and 2. The purpose of this report is to present the necessary equations and tables for making rapid predictions of fractional yields from low- and medium-energy neutron induced fission. To make such a prediction by the method given here, one first estimates a value of Z_p , the value of Z for the maximum of the independent yield versus Z curve, for the mass number of the fission process of interest. A charge dispersion curve is then used to estimate the fractional yield of element Z for that mass number. The reader should consult references 1 - 4 for discussion and derivation of the method described below.

Z_p values for thermal neutron fission of U^{235} are used as reference values for given mass numbers, and adjustments are made for other fission processes. For high-yield mass numbers, Z_p^{ref} , the reference Z_p , is approximated by:^{2,3}

$$Z_p^{ref} = 0.4237A - 2.19 \quad (\text{for } 82 < A < 100)$$

and

$$Z_p^{ref} = 0.4331A - 6.06 \quad (\text{for } A > 135) \quad (1)$$

where A is the mass number. Not enough measurements have been made for

low-yield mass numbers to make such generalizations.

The following equations are then used to adjust Z_P^{ref} for a different fission process:⁴

$$\Delta Z_P = 0.5 (Z_F - 92) - 0.21 (A_F - 236) + 0.19 (v_T - 2.43) \quad (2)$$

and

$$Z_P = Z_P^{\text{ref}} + \Delta Z_P \quad (3)$$

where Z_F is the charge of the fissioning nucleus, A_F is the initial mass of the compound nucleus (i.e., the mass of the target nucleus plus one), and v_T is the average number of neutrons per fission. Values of v_T are obtained from equation 4:⁵

$$v_T = \bar{v}(\text{thermal}) + kE \quad (4)$$

in which E is the incident neutron energy. Values of the constants are given in Table I.

TABLE I

Constants for Equation 4^a

Process	$\bar{v}(\text{thermal})$	k
$U^{233}(n,F)$	2.50	0.115
$U^{235}(n,F)$	2.43	0.135
$U^{238}(n,F)$	2.41	0.138
$Pu^{239}(n,F)$	2.87	0.111

^aFrom reference 5.

Table II lists values of ΔZ_p for some common fission processes; others can be calculated easily.

TABLE II
Values of ΔZ_p

Process	ΔZ_p
$U^{235}(n_{th}, F)$	0.43
$Pu^{239}(n_{th}, F)$	0.25
$U^{235}(n_{14.6}, F)$	0.37
$U^{238}(n_{14.6}, F)$	- 0.25

The fractional cumulative yield of a nuclide with charge Z is given by the Gaussian equation:

$$\begin{aligned} \sum_0^Z (P_n) &= \frac{1}{\sigma(2\pi)^{\frac{1}{2}}} \int_0^{Z+0.5} \exp \left[- \frac{(n - Z_p)^2}{2\sigma^2} \right] dn \\ &= 0.5 + 0.5 f \left[(Z - Z_p + 0.5) / \sqrt{2} \sigma \right] \end{aligned} \quad (5)$$

in which $f(Y)$ is the error function, defined by the expression

$$f(Y) = \frac{2}{\sqrt{\pi}} \int_0^Y \exp(-t^2) dt \quad (6)$$

which can be readily evaluated on a computer.⁶ A value of σ of 0.59 ± 0.06 is assumed to apply for all mass numbers from low- and medium-energy neutron induced fission.¹⁻³ Table III lists values of fractional independent and cumulative yields as a function of $(Z - Z_p)$ for values of

σ of 0.59, 0.53, and 0.65.

To estimate a fractional yield, perform the following steps:

1. Calculate Z_p^{ref} from equation 1.
2. Determine v_T from equation 4 and Table I.
3. Determine ΔZ_p from Table II or from equation 2.
4. Obtain Z_p through equation 3.
5. Look up the fractional yields for the proper value of $(Z - Z_p)$ in Table III for each of the three σ 's.

For example, let us estimate the fractional yields of Ba^{142} from 14.0-MeV neutron fission of U^{235} :

$$A = 142, Z = 56, Z_F = 92, E = 14.0, A_F = 239$$

$$\text{From equation 1: } Z_p^{\text{ref}} = 55.44$$

$$\text{From equation 4 and Table I: } v_T = 4.34$$

$$\text{From equation 2: } \Delta Z_p = -0.27$$

$$\text{From equation 3: } Z_p = 55.17$$

$$Z - Z_p = 0.83$$

From Table III:

$$\text{Fractional independent yield} = \left\{ \begin{array}{l} 0.276 \text{ for } \sigma = 0.59 \\ 0.261 \text{ for } \sigma = 0.53 \\ 0.285 \text{ for } \sigma = 0.65 \end{array} \right\} \text{ i.e., } \begin{array}{l} 0.276 + 0.009 \\ - 0.015 \end{array}$$

$$\text{Fractional cumulative yield} = \left\{ \begin{array}{l} 0.988 \text{ for } \sigma = 0.59 \\ 0.994 \text{ for } \sigma = 0.53 \\ 0.980 \text{ for } \sigma = 0.65 \end{array} \right\} \text{ i.e., } \begin{array}{l} 0.988 + 0.006 \\ - 0.008 \end{array}$$

These two fractional yields with their uncertainties represent the fraction of the chain formed (after prompt neutron emission) at $Z = 56$ and the fraction of the chain formed up to and including $Z = 56$, respectively.

A few words of caution in the use of this method are in order. The value of σ of 0.59 ± 0.06 has been determined for thermal neutron fission of U^{235} for mass numbers 91 - 95 and 139 - 143;^{1,3} the value is also consistent with three mass numbers from other fission processes.² It is assumed that the same Gaussian curve is valid for all mass numbers for the fission processes considered. This assumption was made in obtaining equation 1 from experimental data and is again made in estimating a yield from Table III. In reference 2 it is shown that the method of this report predicts most values of Z_p , which have been inferred from measurements of fractional yields, fairly successfully with the average deviation of the predicted Z_p 's from the measured Z_p 's being 0.11 charge unit. However, the Z_p 's predicted for mass numbers 89 - 95 from thermal neutron fission of Pu^{239} are consistently higher than those measured by an average of 0.17 charge unit.

REFERENCES

1. A. C. Wahl, R. L. Ferguson, D. R. Nethaway, D. E. Troutner, and K. Wolfsberg, *Phys. Rev.* 126, 1112 (1962).
2. K. Wolfsberg, to be published in *Phys. Rev.*, 1965.
3. A. C. Wahl, A. E. Norris, and R. L. Ferguson (private communication), 1964; and A. E. Norris, Ph D Thesis, Washington University, 1963, University Microfilms (Ann Arbor, Mich.), L. C. Card No. Mic-64-2325.
4. C. D. Coryell, M. Kaplan, and R. D. Fink, *Can. J. Chem.* 39, 646 (1961).
5. Argonne National Laboratory Report ANL-5800, 2nd Ed., 1963 (unpublished).
6. C. Hastings, Jr., Approximations for Digital Computers, p. 169, Princeton University Press, Princeton, 1955.

12

TABLE III

Values of Gaussian Charge Distribution Curves

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
-4.00	1.4997E-09	1.4997E-09	2.0147E-11	2.0147E-11	3.6381E-08	3.6383E-08
-3.99	1.6625E-09	1.6625E-09	2.2878E-11	2.2878E-11	3.9623E-08	3.9626E-08
-3.98	1.8425E-09	1.8425E-09	2.5970E-11	2.5970E-11	4.3145E-08	4.3148E-08
-3.97	2.0414E-09	2.0414E-09	2.9469E-11	2.9469E-11	4.6969E-08	4.6972E-08
-3.96	2.2611E-09	2.2612E-09	3.3429E-11	3.3429E-11	5.1121E-08	5.1124E-08
-3.95	2.5038E-09	2.5039E-09	3.7907E-11	3.7907E-11	5.5626E-08	5.5630E-08
-3.94	2.7718E-09	2.7719E-09	4.2970E-11	4.2970E-11	6.0515E-08	6.0519E-08
-3.93	3.0676E-09	3.0677E-09	4.8692E-11	4.8692E-11	6.5818E-08	6.5823E-08
-3.92	3.3941E-09	3.3941E-09	5.5157E-11	5.5157E-11	7.1569E-08	7.1575E-08
-3.91	3.7542E-09	3.7542E-09	6.2458E-11	6.2458E-11	7.7806E-08	7.7811E-08
-3.90	4.1513E-09	4.1514E-09	7.0702E-11	7.0702E-11	8.4566E-08	8.4572E-08
-3.89	4.5892E-09	4.5893E-09	8.0006E-11	8.0006E-11	9.1892E-08	9.1900E-08
-3.88	5.0719E-09	5.0719E-09	9.0502E-11	9.0502E-11	9.9831E-08	9.9839E-08
-3.87	5.6037E-09	5.6038E-09	1.0234E-10	1.0234E-10	1.0843E-07	1.0844E-07
-3.86	6.1896E-09	6.1897E-09	1.1569E-10	1.1569E-10	1.1774E-07	1.1775E-07
-3.85	6.8349E-09	6.8350E-09	1.3073E-10	1.3073E-10	1.2783E-07	1.2784E-07
-3.84	7.5453E-09	7.5454E-09	1.4767E-10	1.4767E-10	1.3874E-07	1.3875E-07
-3.83	8.3272E-09	8.3273E-09	1.6676E-10	1.6676E-10	1.5056E-07	1.5057E-07
-3.82	9.1876E-09	9.1877E-09	1.8824E-10	1.8824E-10	1.6334E-07	1.6335E-07
-3.81	1.0134E-08	1.0134E-08	2.1242E-10	2.1242E-10	1.7716E-07	1.7718E-07
-3.80	1.1175E-08	1.1175E-08	2.3962E-10	2.3962E-10	1.9211E-07	1.9213E-07
-3.79	1.2319E-08	1.2319E-08	2.7021E-10	2.7021E-10	2.0828E-07	2.0830E-07
-3.78	1.3577E-08	1.3577E-08	3.0460E-10	3.0460E-10	2.2576E-07	2.2578E-07
-3.77	1.4959E-08	1.4959E-08	3.4325E-10	3.4325E-10	2.4464E-07	2.4467E-07
-3.76	1.6477E-08	1.6477E-08	3.8667E-10	3.8667E-10	2.6505E-07	2.6507E-07
-3.75	1.8143E-08	1.8144E-08	4.3543E-10	4.3543E-10	2.8709E-07	2.8712E-07
-3.74	1.9973E-08	1.9974E-08	4.9016E-10	4.9016E-10	3.1089E-07	3.1092E-07
-3.73	2.1982E-08	2.1982E-08	5.5158E-10	5.5158E-10	3.3659E-07	3.3663E-07
-3.72	2.4185E-08	2.4186E-08	6.2049E-10	6.2049E-10	3.6433E-07	3.6437E-07
-3.71	2.6602E-08	2.6603E-08	6.9776E-10	6.9776E-10	3.9426E-07	3.9431E-07
-3.70	2.9253E-08	2.9253E-08	7.8438E-10	7.8438E-10	4.2656E-07	4.2661E-07
-3.69	3.2158E-08	3.2159E-08	8.8145E-10	8.8145E-10	4.6140E-07	4.6146E-07
-3.68	3.5343E-08	3.5343E-08	9.9018E-10	9.9019E-10	4.9897E-07	4.9903E-07
-3.67	3.8831E-08	3.8832E-08	1.1119E-09	1.1120E-09	5.3947E-07	5.3954E-07
-3.66	4.2653E-08	4.2654E-08	1.2483E-09	1.2483E-09	5.8313E-07	5.8321E-07
-3.65	4.6837E-08	4.6838E-08	1.4008E-09	1.4008E-09	6.3018E-07	6.3027E-07
-3.64	5.1417E-08	5.1418E-08	1.5714E-09	1.5714E-09	6.8087E-07	6.8097E-07
-3.63	5.6430E-08	5.6431E-08	1.7622E-09	1.7622E-09	7.3547E-07	7.3558E-07
-3.62	6.1914E-08	6.1915E-08	1.9755E-09	1.9755E-09	7.9427E-07	7.9439E-07
-3.61	6.7912E-08	6.7914E-08	2.2138E-09	2.2138E-09	8.5757E-07	8.5770E-07
-3.60	7.4471E-08	7.4472E-08	2.4800E-09	2.4800E-09	9.2571E-07	9.2585E-07
-3.59	8.1640E-08	8.1642E-08	2.7772E-09	2.7772E-09	9.9903E-07	9.9919E-07
-3.58	8.9474E-08	8.9476E-08	3.1090E-09	3.1090E-09	1.0779E-06	1.0781E-06
-3.57	9.8033E-08	9.8035E-08	3.4792E-09	3.4792E-09	1.1628E-06	1.1629E-06
-3.56	1.0738E-07	1.0738E-07	3.8922E-09	3.8922E-09	1.2540E-06	1.2542E-06
-3.55	1.1759E-07	1.1759E-07	4.3527E-09	4.3527E-09	1.3521E-06	1.3523E-06
-3.54	1.2873E-07	1.2873E-07	4.8659E-09	4.8659E-09	1.4575E-06	1.4578E-06
-3.53	1.4088E-07	1.4089E-07	5.4378E-09	5.4379E-09	1.5708E-06	1.5711E-06
-3.52	1.5415E-07	1.5415E-07	6.0749E-09	6.0749E-09	1.6925E-06	1.6928E-06
-3.51	1.6861E-07	1.6861E-07	6.7841E-09	6.7842E-09	1.8232E-06	1.8236E-06

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= C.65	
	FRACTION OF CHAIN INDEPENDENT	CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	CUMULATIVE
-3.50	1.8438E-07	1.8438E-07	7.5736E-09	7.5737E-09	1.9636E-06	1.9640E-06
-3.49	2.0157E-07	2.0157E-07	8.4521E-09	8.4521E-09	2.1143E-06	2.1147E-06
-3.48	2.2030E-07	2.2030E-07	9.4291E-09	9.4291E-09	2.2761E-06	2.2765E-06
-3.47	2.4070E-07	2.4071E-07	1.0515E-08	1.0516E-08	2.4496E-06	2.4501E-06
-3.46	2.6292E-07	2.6293E-07	1.1723E-08	1.1723E-08	2.6358E-06	2.6364E-06
-3.45	2.8711E-07	2.8712E-07	1.3065E-08	1.3065E-08	2.8355E-06	2.8362E-06
-3.44	3.1344E-07	3.1345E-07	1.4555E-08	1.4555E-08	3.0497E-06	3.0504E-06
-3.43	3.4209E-07	3.4210E-07	1.6209E-08	1.6209E-08	3.2793E-06	3.2800E-06
-3.42	3.7325E-07	3.7327E-07	1.8045E-08	1.8045E-08	3.5253E-06	3.5261E-06
-3.41	4.0714E-07	4.0716E-07	2.0083E-08	2.0083E-08	3.7890E-06	3.7899E-06
-3.40	4.4399E-07	4.4400E-07	2.2342E-08	2.2342E-08	4.0714E-06	4.0724E-06
-3.39	4.8403E-07	4.8405E-07	2.4848E-08	2.4848E-08	4.3739E-06	4.3750E-06
-3.38	5.2754E-07	5.2756E-07	2.7624E-08	2.7624E-08	4.6979E-06	4.6991E-06
-3.37	5.7400E-07	5.7403E-07	3.0701E-08	3.0701E-08	5.0446E-06	5.0459E-06
-3.36	6.2612E-07	6.2615E-07	3.4108E-08	3.4108E-08	5.4157E-06	5.4172E-06
-3.35	6.8183E-07	6.8187E-07	3.7880E-08	3.7880E-08	5.8129E-06	5.8144E-06
-3.34	7.4230E-07	7.4234E-07	4.2055E-08	4.2055E-08	6.2377E-06	6.2394E-06
-3.33	8.0790E-07	8.0795E-07	4.6673E-08	4.6674E-08	6.6920E-06	6.6939E-06
-3.32	8.7906E-07	8.7911E-07	5.1782E-08	5.1782E-08	7.1778E-06	7.1799E-06
-3.31	9.5623E-07	9.5628E-07	5.7429E-08	5.7429E-08	7.6971E-06	7.6994E-06
-3.30	1.0399E-06	1.0399E-06	6.3670E-08	6.3671E-08	8.2521E-06	8.2547E-06
-3.29	1.1305E-06	1.1306E-06	7.0566E-08	7.0566E-08	8.8452E-06	8.8479E-06
-3.28	1.2287E-06	1.2288E-06	7.8181E-08	7.8181E-08	9.4787E-06	9.4817E-06
-3.27	1.3351E-06	1.3352E-06	8.6588E-08	8.6589E-08	1.0155E-05	1.0159E-05
-3.26	1.4503E-06	1.4504E-06	9.5866E-08	9.5867E-08	1.0878E-05	1.0881E-05
-3.25	1.5750E-06	1.5751E-06	1.0610E-07	1.0610E-07	1.1649E-05	1.1653E-05
-3.24	1.7099E-06	1.7100E-06	1.1739E-07	1.1739E-07	1.2472E-05	1.2476E-05
-3.23	1.8559E-06	1.8560E-06	1.2983E-07	1.2983E-07	1.3350E-05	1.3355E-05
-3.22	2.0130E-06	2.0139E-06	1.4355E-07	1.4355E-07	1.4287E-05	1.4292E-05
-3.21	2.1845E-06	2.1846E-06	1.5866E-07	1.5866E-07	1.5286E-05	1.5291E-05
-3.20	2.3690E-06	2.3692E-06	1.7529E-07	1.7529E-07	1.6351E-05	1.6357E-05
-3.19	2.5684E-06	2.5686E-06	1.9361E-07	1.9361E-07	1.7486E-05	1.7493E-05
-3.18	2.7838E-06	2.7841E-06	2.1376E-07	2.1376E-07	1.8696E-05	1.8704E-05
-3.17	3.0165E-06	3.0168E-06	2.3594E-07	2.3594E-07	1.9985E-05	1.9993E-05
-3.16	3.2677E-06	3.2680E-06	2.6032E-07	2.6032E-07	2.1358E-05	2.1367E-05
-3.15	3.5380E-06	3.5392E-06	2.8712E-07	2.8712E-07	2.2821E-05	2.2831E-05
-3.14	3.8314E-06	3.8318E-06	3.1657E-07	3.1658E-07	2.4378E-05	2.4389E-05
-3.13	4.1471E-06	4.1474E-06	3.4893E-07	3.4893E-07	2.6035E-05	2.6047E-05
-3.12	4.4874E-06	4.4879E-06	3.8446E-07	3.8447E-07	2.7799E-05	2.7812E-05
-3.11	4.8544E-06	4.8549E-06	4.2346E-07	4.2347E-07	2.9676E-05	2.9690E-05
-3.10	5.2500E-06	5.2505E-06	4.6626E-07	4.6627E-07	3.1672E-05	3.1687E-05
-3.09	5.6762E-06	5.6768E-06	5.1321E-07	5.1322E-07	3.3795E-05	3.3812E-05
-3.08	6.1354E-06	6.1360E-06	5.6469E-07	5.6470E-07	3.6052E-05	3.6070E-05
-3.07	6.6290E-06	6.6305E-06	6.2113E-07	6.2113E-07	3.8451E-05	3.8471E-05
-3.06	7.1621E-06	7.1630E-06	6.8296E-07	6.8297E-07	4.1000E-05	4.1022E-05
-3.05	7.7351E-06	7.7360E-06	7.5070E-07	7.5071E-07	4.3709E-05	4.3733E-05
-3.04	8.3516E-06	8.3525E-06	8.2487E-07	8.2488E-07	4.6586E-05	4.6612E-05
-3.03	9.0147E-06	9.0158E-06	9.0606E-07	9.0607E-07	4.9641E-05	4.9669E-05
-3.02	9.7270E-06	9.7290E-06	9.9489E-07	9.9491E-07	5.2885E-05	5.2916E-05
-3.01	1.0494E-05	1.0496E-05	1.0921E-06	1.0921E-06	5.6328E-05	5.6361E-05

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
-3.00	1.1318E-05	1.1320E-05	1.1983E-06	1.1983E-06	5.9981E-05	6.0018E-05
-2.99	1.2204E-05	1.2205E-05	1.3145E-06	1.3145E-06	6.3858E-05	6.3897E-05
-2.98	1.3154E-05	1.3156E-05	1.4414E-06	1.4414E-06	6.7969E-05	6.8012E-05
-2.97	1.4176E-05	1.4178E-05	1.5800E-06	1.5800E-06	7.2329E-05	7.2376E-05
-2.96	1.5272E-05	1.5274E-05	1.7313E-06	1.7314E-06	7.6951E-05	7.7002E-05
-2.95	1.6448E-05	1.6451E-05	1.8965E-06	1.8966E-06	8.1850E-05	8.1905E-05
-2.94	1.7710E-05	1.7713E-05	2.0768E-06	2.0768E-06	8.7041E-05	8.7102E-05
-2.93	1.9064E-05	1.9067E-05	2.2734E-06	2.2734E-06	9.2541E-05	9.2607E-05
-2.92	2.0516E-05	2.0519E-05	2.4877E-06	2.4878E-06	9.8366E-05	9.8438E-05
-2.91	2.2072E-05	2.2075E-05	2.7214E-06	2.7214E-06	1.0453E-04	1.0461E-04
-2.90	2.3739E-05	2.3743E-05	2.9759E-06	2.9760E-06	1.1107E-04	1.1115E-04
-2.89	2.5526E-05	2.5530E-05	3.2532E-06	3.2533E-06	1.1798E-04	1.1807E-04
-2.88	2.7439E-05	2.7444E-05	3.5551E-06	3.5552E-06	1.2529E-04	1.2539E-04
-2.87	2.9488E-05	2.9494E-05	3.8836E-06	3.8837E-06	1.3303E-04	1.3314E-04
-2.86	3.1681E-05	3.1688E-05	4.2411E-06	4.2412E-06	1.4121E-04	1.4133E-04
-2.85	3.4029E-05	3.4035E-05	4.6299E-06	4.6301E-06	1.4987E-04	1.4999E-04
-2.84	3.6539E-05	3.6547E-05	5.0527E-06	5.0528E-06	1.5901E-04	1.5915E-04
-2.83	3.9225E-05	3.9233E-05	5.5121E-06	5.5123E-06	1.6868E-04	1.6883E-04
-2.82	4.2096E-05	4.2105E-05	6.0113E-06	6.0115E-06	1.7890E-04	1.7906E-04
-2.81	4.5165E-05	4.5175E-05	6.5534E-06	6.5536E-06	1.8969E-04	1.8987E-04
-2.80	4.8445E-05	4.8456E-05	7.1420E-06	7.1422E-06	2.0109E-04	2.0128E-04
-2.79	5.1948E-05	5.1961E-05	7.7808E-06	7.7810E-06	2.1313E-04	2.1334E-04
-2.78	5.5690E-05	5.5704E-05	8.4738E-06	8.4741E-06	2.2583E-04	2.2606E-04
-2.77	5.9685E-05	5.9700E-05	9.2254E-06	9.2258E-06	2.3924E-04	2.3949E-04
-2.76	6.3949E-05	6.3965E-05	1.0040E-05	1.0041E-05	2.5339E-04	2.5366E-04
-2.75	6.8499E-05	6.8517E-05	1.0923E-05	1.0924E-05	2.6832E-04	2.6861E-04
-2.74	7.3352E-05	7.3372E-05	1.1880E-05	1.1881E-05	2.8406E-04	2.8437E-04
-2.73	7.8529E-05	7.8551E-05	1.2916E-05	1.2917E-05	3.0066E-04	3.0100E-04
-2.72	8.4047E-05	8.4071E-05	1.4038E-05	1.4039E-05	3.1816E-04	3.1852E-04
-2.71	8.9929E-05	8.9955E-05	1.5252E-05	1.5253E-05	3.3660E-04	3.3700E-04
-2.70	9.6196E-05	9.6225E-05	1.6565E-05	1.6566E-05	3.5603E-04	3.5646E-04
-2.69	1.0287E-04	1.0290E-04	1.7986E-05	1.7986E-05	3.7650E-04	3.7696E-04
-2.68	1.0998E-04	1.1002E-04	1.9521E-05	1.9522E-05	3.9806E-04	3.9856E-04
-2.67	1.1755E-04	1.1759E-04	2.1180E-05	2.1181E-05	4.2075E-04	4.2129E-04
-2.66	1.2560E-04	1.2565E-04	2.2973E-05	2.2974E-05	4.4464E-04	4.4523E-04
-2.65	1.3418E-04	1.3422E-04	2.4909E-05	2.4910E-05	4.6979E-04	4.7042E-04
-2.64	1.4329E-04	1.4334E-04	2.6998E-05	2.7000E-05	4.9624E-04	4.9692E-04
-2.63	1.5299E-04	1.5304E-04	2.9253E-05	2.9255E-05	5.2407E-04	5.2481E-04
-2.62	1.6329E-04	1.6335E-04	3.1686E-05	3.1688E-05	5.5334E-04	5.5413E-04
-2.61	1.7424E-04	1.7431E-04	3.4309E-05	3.4312E-05	5.8411E-04	5.8496E-04
-2.60	1.8588E-04	1.8596E-04	3.7137E-05	3.7140E-05	6.1645E-04	6.1738E-04
-2.59	1.9824E-04	1.9832E-04	4.0185E-05	4.0188E-05	6.5044E-04	6.5144E-04
-2.58	2.1137E-04	2.1146E-04	4.3467E-05	4.3471E-05	6.8615E-04	6.8723E-04
-2.57	2.2530E-04	2.2540E-04	4.7003E-05	4.7006E-05	7.2366E-04	7.2483E-04
-2.56	2.4008E-04	2.4019E-04	5.0808E-05	5.0812E-05	7.6306E-04	7.6431E-04
-2.55	2.5577E-04	2.5589E-04	5.4903E-05	5.4907E-05	8.0442E-04	8.0577E-04
-2.54	2.7241E-04	2.7254E-04	5.9307E-05	5.9312E-05	8.4783E-04	8.4929E-04
-2.53	2.9005E-04	2.9019E-04	6.4044E-05	6.4049E-05	8.9339E-04	8.9496E-04
-2.52	3.0875E-04	3.0891E-04	6.9135E-05	6.9141E-05	9.4119E-04	9.4288E-04
-2.51	3.2857E-04	3.2874E-04	7.4606E-05	7.4613E-05	9.9132E-04	9.9314E-04

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59 FRACTION OF CHAIN		SIGMA= 0.53 FRACTION OF CHAIN		SIGMA= 0.65 FRACTION OF CHAIN	
	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE
-2.50	3.4956E-04	3.4975E-04	8.0482E-05	8.0490E-05	1.0439E-03	1.0459E-03
-2.49	3.7180E-04	3.7200E-04	8.6793E-05	8.6801E-05	1.0990E-03	1.1011E-03
-2.48	3.9534E-04	3.9556E-04	9.3566E-05	9.3575E-05	1.1568E-03	1.1591E-03
-2.47	4.2026E-04	4.2050E-04	1.0083E-04	1.0084E-04	1.2173E-03	1.2198E-03
-2.46	4.4664E-04	4.4690E-04	1.0863E-04	1.0864E-04	1.2808E-03	1.2834E-03
-2.45	4.7453E-04	4.7482E-04	1.1699E-04	1.1700E-04	1.3472E-03	1.3500E-03
-2.44	5.0404E-04	5.0435E-04	1.2595E-04	1.2596E-04	1.4168E-03	1.4198E-03
-2.43	5.3523E-04	5.3557E-04	1.3555E-04	1.3556E-04	1.4896E-03	1.4929E-03
-2.42	5.6820E-04	5.6858E-04	1.4583E-04	1.4585E-04	1.5658E-03	1.5693E-03
-2.41	6.0304E-04	6.0345E-04	1.5684E-04	1.5686E-04	1.6456E-03	1.6494E-03
-2.40	6.3985E-04	6.4029E-04	1.6863E-04	1.6865E-04	1.7290E-03	1.7331E-03
-2.39	6.7871E-04	6.7920E-04	1.8123E-04	1.8126E-04	1.8163E-03	1.8207E-03
-2.38	7.1975E-04	7.2027E-04	1.9472E-04	1.9475E-04	1.9076E-03	1.9123E-03
-2.37	7.6306E-04	7.6363E-04	2.0914E-04	2.0917E-04	2.0030E-03	2.0080E-03
-2.36	8.0876E-04	8.0938E-04	2.2455E-04	2.2459E-04	2.1027E-03	2.1081E-03
-2.35	8.5696E-04	8.5764E-04	2.4102E-04	2.4106E-04	2.2069E-03	2.2127E-03
-2.34	9.0780E-04	9.0854E-04	2.5861E-04	2.5865E-04	2.3157E-03	2.3220E-03
-2.33	9.6139E-04	9.6219E-04	2.7739E-04	2.7743E-04	2.4294E-03	2.4361E-03
-2.32	1.0179E-03	1.0187E-03	2.9743E-04	2.9748E-04	2.5481E-03	2.5553E-03
-2.31	1.0774E-03	1.0783E-03	3.1881E-04	3.1887E-04	2.6720E-03	2.6797E-03
-2.30	1.1401E-03	1.1411E-03	3.4162E-04	3.4168E-04	2.8014E-03	2.8096E-03
-2.29	1.2061E-03	1.2072E-03	3.6593E-04	3.6600E-04	2.9363E-03	2.9451E-03
-2.28	1.2756E-03	1.2768E-03	3.9185E-04	3.9192E-04	3.0771E-03	3.0865E-03
-2.27	1.3487E-03	1.3500E-03	4.1945E-04	4.1954E-04	3.2239E-03	3.2340E-03
-2.26	1.4256E-03	1.4271E-03	4.4886E-04	4.4895E-04	3.3769E-03	3.3878E-03
-2.25	1.5066E-03	1.5081E-03	4.8016E-04	4.8027E-04	3.5365E-03	3.5482E-03
-2.24	1.5917E-03	1.5934E-03	5.1348E-04	5.1360E-04	3.7028E-03	3.7153E-03
-2.23	1.6811E-03	1.6830E-03	5.4893E-04	5.4906E-04	3.8761E-03	3.8894E-03
-2.22	1.7751E-03	1.7771E-03	5.8662E-04	5.8676E-04	4.0565E-03	4.0708E-03
-2.21	1.8739E-03	1.8761E-03	6.2670E-04	6.2686E-04	4.2445E-03	4.2598E-03
-2.20	1.9776E-03	1.9800E-03	6.6929E-04	6.6946E-04	4.4402E-03	4.4566E-03
-2.19	2.0865E-03	2.0891E-03	7.1453E-04	7.1473E-04	4.6439E-03	4.6614E-03
-2.18	2.2009E-03	2.2037E-03	7.6258E-04	7.6280E-04	4.8559E-03	4.8746E-03
-2.17	2.3209E-03	2.3239E-03	8.1360E-04	8.1383E-04	5.0765E-03	5.0965E-03
-2.16	2.4467E-03	2.4500E-03	8.6773E-04	8.6799E-04	5.3059E-03	5.3272E-03
-2.15	2.5787E-03	2.5823E-03	9.2516E-04	9.2545E-04	5.5445E-03	5.5673E-03
-2.14	2.7171E-03	2.7210E-03	9.8606E-04	9.8638E-04	5.7925E-03	5.8169E-03
-2.13	2.8622E-03	2.8664E-03	1.0506E-03	1.0510E-03	6.0503E-03	6.0764E-03
-2.12	3.0142E-03	3.0187E-03	1.1190E-03	1.1194E-03	6.3182E-03	6.3461E-03
-2.11	3.1735E-03	3.1783E-03	1.1915E-03	1.1919E-03	6.5966E-03	6.6263E-03
-2.10	3.3402E-03	3.3455E-03	1.2683E-03	1.2687E-03	6.8857E-03	6.9174E-03
-2.09	3.5149E-03	3.5205E-03	1.3495E-03	1.3500E-03	7.1859E-03	7.2197E-03
-2.08	3.6976E-03	3.7037E-03	1.4355E-03	1.4361E-03	7.4976E-03	7.5337E-03
-2.07	3.8888E-03	3.8955E-03	1.5265E-03	1.5271E-03	7.8211E-03	7.8596E-03
-2.06	4.0889E-03	4.0960E-03	1.6226E-03	1.6233E-03	8.1568E-03	8.1978E-03
-2.05	4.2981E-03	4.3058E-03	1.7243E-03	1.7251E-03	8.5051E-03	8.5488E-03
-2.04	4.5168E-03	4.5251E-03	1.8317E-03	1.8326E-03	8.8663E-03	8.9129E-03
-2.03	4.7453E-03	4.7543E-03	1.9452E-03	1.9461E-03	9.2408E-03	9.2905E-03
-2.02	4.9841E-03	4.9939E-03	2.0651E-03	2.0660E-03	9.6291E-03	9.6820E-03
-2.01	5.2336E-03	5.2441E-03	2.1915E-03	2.1926E-03	1.0031E-02	1.0088E-02

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
-2.00	5.4941E-03	5.5054E-03	2.3250E-03	2.3262E-03	1.0448E-02	1.0508E-02
-1.99	5.7660E-03	5.7782E-03	2.4658E-03	2.4671E-03	1.0880E-02	1.0944E-02
-1.98	6.0498E-03	6.0630E-03	2.6143E-03	2.6157E-03	1.1328E-02	1.1396E-02
-1.97	6.3459E-03	6.3601E-03	2.7707E-03	2.7723E-03	1.1791E-02	1.1863E-02
-1.96	6.6547E-03	6.6700E-03	2.9356E-03	2.9374E-03	1.2270E-02	1.2347E-02
-1.95	6.9768E-03	6.9932E-03	3.1093E-03	3.1112E-03	1.2767E-02	1.2849E-02
-1.94	7.3125E-03	7.3302E-03	3.2922E-03	3.2942E-03	1.3280E-02	1.3367E-02
-1.93	7.6623E-03	7.6814E-03	3.4846E-03	3.4869E-03	1.3811E-02	1.3904E-02
-1.92	8.0268E-03	8.0473E-03	3.6872E-03	3.6897E-03	1.4361E-02	1.4459E-02
-1.91	8.4063E-03	8.4284E-03	3.9002E-03	3.9029E-03	1.4928E-02	1.5033E-02
-1.90	8.8016E-03	8.8253E-03	4.1241E-03	4.1271E-03	1.5515E-02	1.5627E-02
-1.89	9.2130E-03	9.2385E-03	4.3596E-03	4.3628E-03	1.6122E-02	1.6240E-02
-1.88	9.6411E-03	9.6685E-03	4.6069E-03	4.6104E-03	1.6749E-02	1.6874E-02
-1.87	1.0086E-02	1.0116E-02	4.8667E-03	4.8706E-03	1.7396E-02	1.7529E-02
-1.86	1.0550E-02	1.0581E-02	5.1394E-03	5.1437E-03	1.8065E-02	1.8206E-02
-1.85	1.1031E-02	1.1065E-02	5.4257E-03	5.4303E-03	1.8755E-02	1.8905E-02
-1.84	1.1532E-02	1.1568E-02	5.7260E-03	5.7311E-03	1.9467E-02	1.9626E-02
-1.83	1.2052E-02	1.2091E-02	6.0410E-03	6.0466E-03	2.0202E-02	2.0371E-02
-1.82	1.2592E-02	1.2634E-02	6.3713E-03	6.3773E-03	2.0961E-02	2.1140E-02
-1.81	1.3153E-02	1.3198E-02	6.7174E-03	6.7240E-03	2.1743E-02	2.1933E-02
-1.80	1.3736E-02	1.3784E-02	7.0801E-03	7.0872E-03	2.2550E-02	2.2751E-02
-1.79	1.4340E-02	1.4392E-02	7.4598E-03	7.4676E-03	2.3381E-02	2.3594E-02
-1.78	1.4968E-02	1.5023E-02	7.8575E-03	7.8659E-03	2.4238E-02	2.4464E-02
-1.77	1.5618E-02	1.5678E-02	8.2736E-03	8.2828E-03	2.5121E-02	2.5360E-02
-1.76	1.6293E-02	1.6357E-02	8.7089E-03	8.7190E-03	2.6031E-02	2.6284E-02
-1.75	1.6992E-02	1.7061E-02	9.1642E-03	9.1751E-03	2.6967E-02	2.7236E-02
-1.74	1.7717E-02	1.7791E-02	9.6402E-03	9.6520E-03	2.7932E-02	2.8216E-02
-1.73	1.8468E-02	1.8547E-02	1.0138E-02	1.0150E-02	2.8925E-02	2.9226E-02
-1.72	1.9246E-02	1.9330E-02	1.0657E-02	1.0671E-02	2.9947E-02	3.0265E-02
-1.71	2.0052E-02	2.0142E-02	1.1200E-02	1.1215E-02	3.0998E-02	3.1335E-02
-1.70	2.0885E-02	2.0982E-02	1.1766E-02	1.1783E-02	3.2079E-02	3.2436E-02
-1.69	2.1748E-02	2.1851E-02	1.2358E-02	1.2375E-02	3.3192E-02	3.3568E-02
-1.68	2.2641E-02	2.2751E-02	1.2974E-02	1.2994E-02	3.4335E-02	3.4733E-02
-1.67	2.3564E-02	2.3682E-02	1.3617E-02	1.3638E-02	3.5510E-02	3.5931E-02
-1.66	2.4519E-02	2.4644E-02	1.4288E-02	1.4311E-02	3.6718E-02	3.7163E-02
-1.65	2.5505E-02	2.5639E-02	1.4986E-02	1.5011E-02	3.7958E-02	3.8429E-02
-1.64	2.6525E-02	2.6668E-02	1.5714E-02	1.5741E-02	3.9233E-02	3.9730E-02
-1.63	2.7578E-02	2.7731E-02	1.6472E-02	1.6501E-02	4.0541E-02	4.1066E-02
-1.62	2.8666E-02	2.8829E-02	1.7260E-02	1.7292E-02	4.1884E-02	4.2439E-02
-1.61	2.9788E-02	2.9963E-02	1.8081E-02	1.8116E-02	4.3263E-02	4.3848E-02
-1.60	3.0947E-02	3.1133E-02	1.8935E-02	1.8972E-02	4.4678E-02	4.5295E-02
-1.59	3.2143E-02	3.2341E-02	1.9823E-02	1.9863E-02	4.6129E-02	4.6780E-02
-1.58	3.3377E-02	3.3588E-02	2.0746E-02	2.0789E-02	4.7617E-02	4.8304E-02
-1.57	3.4649E-02	3.4874E-02	2.1704E-02	2.1751E-02	4.9143E-02	4.9867E-02
-1.56	3.5960E-02	3.6200E-02	2.2700E-02	2.2751E-02	5.0707E-02	5.1471E-02
-1.55	3.7311E-02	3.7567E-02	2.3734E-02	2.3789E-02	5.2309E-02	5.3115E-02
-1.54	3.8703E-02	3.8976E-02	2.4808E-02	2.4867E-02	5.3952E-02	5.4801E-02
-1.53	4.0137E-02	4.0427E-02	2.5921E-02	2.5985E-02	5.5634E-02	5.6528E-02
-1.52	4.1614E-02	4.1923E-02	2.7076E-02	2.7145E-02	5.7356E-02	5.8299E-02
-1.51	4.3134E-02	4.3462E-02	2.8274E-02	2.8348E-02	5.9119E-02	6.0112E-02

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
-1.50	4.4697E-02	4.5047E-02	2.9515E-02	2.9595E-02	6.0924E-02	6.1970E-02
-1.49	4.6306E-02	4.6678E-02	3.0801E-02	3.0887E-02	6.2770E-02	6.3872E-02
-1.48	4.7961E-02	4.8357E-02	3.2132E-02	3.2226E-02	6.4659E-02	6.5819E-02
-1.47	4.9662E-02	5.0083E-02	3.3511E-02	3.3612E-02	6.6591E-02	6.7811E-02
-1.46	5.1411E-02	5.1858E-02	3.4938E-02	3.5047E-02	6.8567E-02	6.9850E-02
-1.45	5.3207E-02	5.3682E-02	3.6415E-02	3.6532E-02	7.0586E-02	7.1936E-02
-1.44	5.5053E-02	5.5557E-02	3.7941E-02	3.8067E-02	7.2649E-02	7.4069E-02
-1.43	5.6948E-02	5.7483E-02	3.9520E-02	3.9655E-02	7.4757E-02	7.6250E-02
-1.42	5.8893E-02	5.9462E-02	4.1151E-02	4.1297E-02	7.6911E-02	7.8480E-02
-1.41	6.0890E-02	6.1493E-02	4.2836E-02	4.2993E-02	7.9109E-02	8.0759E-02
-1.40	6.2938E-02	6.3579E-02	4.4576E-02	4.4745E-02	8.1354E-02	8.3087E-02
-1.39	6.5039E-02	6.5719E-02	4.6373E-02	4.6554E-02	8.3645E-02	8.5466E-02
-1.38	6.7194E-02	6.7914E-02	4.8226E-02	4.8421E-02	8.5983E-02	8.7895E-02
-1.37	6.9402E-02	7.0165E-02	5.0138E-02	5.0348E-02	8.8367E-02	9.0375E-02
-1.36	7.1665E-02	7.2474E-02	5.2110E-02	5.2335E-02	9.0799E-02	9.2907E-02
-1.35	7.3982E-02	7.4840E-02	5.4143E-02	5.4384E-02	9.3279E-02	9.5491E-02
-1.34	7.6356E-02	7.7265E-02	5.6237E-02	5.6496E-02	9.5806E-02	9.8128E-02
-1.33	7.8787E-02	7.9749E-02	5.8395E-02	5.8672E-02	9.8381E-02	1.0082E-01
-1.32	8.1274E-02	8.2293E-02	6.0616E-02	6.0913E-02	1.0100E-01	1.0356E-01
-1.31	8.3819E-02	8.4897E-02	6.2902E-02	6.3221E-02	1.0368E-01	1.0636E-01
-1.30	8.6422E-02	8.7563E-02	6.5255E-02	6.5596E-02	1.0640E-01	1.0921E-01
-1.29	8.9084E-02	9.0291E-02	6.7674E-02	6.8040E-02	1.0917E-01	1.1211E-01
-1.28	9.1804E-02	9.3081E-02	7.0162E-02	7.0554E-02	1.1199E-01	1.1507E-01
-1.27	9.4585E-02	9.5935E-02	7.2718E-02	7.3138E-02	1.1485E-01	1.1809E-01
-1.26	9.7425E-02	9.8852E-02	7.5345E-02	7.5794E-02	1.1777E-01	1.2116E-01
-1.25	1.0033E-01	1.0183E-01	7.8043E-02	7.8523E-02	1.2074E-01	1.2428E-01
-1.24	1.0329E-01	1.0488E-01	8.0812E-02	8.1326E-02	1.2375E-01	1.2747E-01
-1.23	1.0631E-01	1.0799E-01	8.3654E-02	8.4204E-02	1.2682E-01	1.3071E-01
-1.22	1.0939E-01	1.1117E-01	8.6570E-02	8.7157E-02	1.2993E-01	1.3400E-01
-1.21	1.1254E-01	1.1442E-01	8.9560E-02	9.0187E-02	1.3309E-01	1.3735E-01
-1.20	1.1575E-01	1.1773E-01	9.2625E-02	9.3295E-02	1.3630E-01	1.4076E-01
-1.19	1.1902E-01	1.2111E-01	9.5766E-02	9.6481E-02	1.3956E-01	1.4423E-01
-1.18	1.2235E-01	1.2455E-01	9.8983E-02	9.9746E-02	1.4287E-01	1.4775E-01
-1.17	1.2574E-01	1.2807E-01	1.0228E-01	1.0309E-01	1.4623E-01	1.5133E-01
-1.16	1.2920E-01	1.3165E-01	1.0565E-01	1.0652E-01	1.4964E-01	1.5496E-01
-1.15	1.3272E-01	1.3530E-01	1.0910E-01	1.1002E-01	1.5309E-01	1.5866E-01
-1.14	1.3630E-01	1.3902E-01	1.1263E-01	1.1361E-01	1.5659E-01	1.6241E-01
-1.13	1.3994E-01	1.4281E-01	1.1624E-01	1.1729E-01	1.6014E-01	1.6622E-01
-1.12	1.4365E-01	1.4667E-01	1.1992E-01	1.2104E-01	1.6374E-01	1.7008E-01
-1.11	1.4742E-01	1.5060E-01	1.2369E-01	1.2488E-01	1.6738E-01	1.7401E-01
-1.10	1.5125E-01	1.5459E-01	1.2754E-01	1.2881E-01	1.7107E-01	1.7799E-01
-1.09	1.5514E-01	1.5866E-01	1.3146E-01	1.3281E-01	1.7480E-01	1.8202E-01
-1.08	1.5909E-01	1.6280E-01	1.3547E-01	1.3691E-01	1.7858E-01	1.8612E-01
-1.07	1.6311E-01	1.6700E-01	1.3956E-01	1.4109E-01	1.8241E-01	1.9027E-01
-1.06	1.6718E-01	1.7128E-01	1.4373E-01	1.4535E-01	1.8628E-01	1.9447E-01
-1.05	1.7131E-01	1.7562E-01	1.4798E-01	1.4970E-01	1.9019E-01	1.9874E-01
-1.04	1.7551E-01	1.8003E-01	1.5230E-01	1.5414E-01	1.9414E-01	2.0306E-01
-1.03	1.7976E-01	1.8452E-01	1.5671E-01	1.5866E-01	1.9814E-01	2.0743E-01
-1.02	1.8407E-01	1.8907E-01	1.6120E-01	1.6327E-01	2.0218E-01	2.1186E-01
-1.01	1.8844E-01	1.9369E-01	1.6577E-01	1.6796E-01	2.0626E-01	2.1634E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
-1.00	1.9207E-01	1.9837E-01	1.7042E-01	1.7274E-01	2.1037E-01	2.2088E-01
-0.99	1.9735E-01	2.0313E-01	1.7514E-01	1.7761E-01	2.1453E-01	2.2548E-01
-0.98	2.0189E-01	2.0795E-01	1.7995E-01	1.8256E-01	2.1873E-01	2.3012E-01
-0.97	2.0648E-01	2.1284E-01	1.8483E-01	1.8760E-01	2.2296E-01	2.3482E-01
-0.96	2.1113E-01	2.1780E-01	1.8979E-01	1.9272E-01	2.2723E-01	2.3957E-01
-0.95	2.1583E-01	2.2282E-01	1.9482E-01	1.9793E-01	2.3153E-01	2.4438E-01
-0.94	2.2058E-01	2.2791E-01	1.9993E-01	2.0322E-01	2.3586E-01	2.4923E-01
-0.93	2.2538E-01	2.3306E-01	2.0511E-01	2.0860E-01	2.4023E-01	2.5414E-01
-0.92	2.3023E-01	2.3828E-01	2.1036E-01	2.1405E-01	2.4464E-01	2.5909E-01
-0.91	2.3513E-01	2.4356E-01	2.1569E-01	2.1959E-01	2.4907E-01	2.6410E-01
-0.90	2.4008E-01	2.4890E-01	2.2109E-01	2.2521E-01	2.5353E-01	2.6916E-01
-0.89	2.4507E-01	2.5431E-01	2.2655E-01	2.3092E-01	2.5802E-01	2.7426E-01
-0.88	2.5010E-01	2.5977E-01	2.3209E-01	2.3670E-01	2.6253E-01	2.7941E-01
-0.87	2.5518E-01	2.6530E-01	2.3769E-01	2.4256E-01	2.6708E-01	2.8460E-01
-0.86	2.6030E-01	2.7088E-01	2.4335E-01	2.4850E-01	2.7164E-01	2.8985E-01
-0.85	2.6546E-01	2.7652E-01	2.4908E-01	2.5451E-01	2.7623E-01	2.9513E-01
-0.84	2.7065E-01	2.8222E-01	2.5487E-01	2.6060E-01	2.8084E-01	3.0047E-01
-0.83	2.7598E-01	2.8798E-01	2.6072E-01	2.6677E-01	2.8547E-01	3.0584E-01
-0.82	2.8115E-01	2.9379E-01	2.6663E-01	2.7300E-01	2.9012E-01	3.1126E-01
-0.81	2.8645E-01	2.9965E-01	2.7259E-01	2.7931E-01	2.9478E-01	3.1671E-01
-0.80	2.9178E-01	3.0557E-01	2.7840E-01	2.8569E-01	2.9946E-01	3.2221E-01
-0.79	2.9714E-01	3.1153E-01	2.8467E-01	2.9214E-01	3.0415E-01	3.2775E-01
-0.78	3.0253E-01	3.1755E-01	2.9079E-01	2.9865E-01	3.0886E-01	3.3332E-01
-0.77	3.0794E-01	3.2362E-01	2.9695E-01	3.0523E-01	3.1358E-01	3.3894E-01
-0.76	3.1337E-01	3.2973E-01	3.0315E-01	3.1187E-01	3.1830E-01	3.4458E-01
-0.75	3.1883E-01	3.3589E-01	3.0940E-01	3.1858E-01	3.2303E-01	3.5027E-01
-0.74	3.2430E-01	3.4209E-01	3.1569E-01	3.2534E-01	3.2777E-01	3.5598E-01
-0.73	3.2979E-01	3.4834E-01	3.2201E-01	3.3216E-01	3.3251E-01	3.6173E-01
-0.72	3.3529E-01	3.5462E-01	3.2837E-01	3.3904E-01	3.3725E-01	3.6751E-01
-0.71	3.4081E-01	3.6095E-01	3.3476E-01	3.4598E-01	3.4199E-01	3.7332E-01
-0.70	3.4634E-01	3.6732E-01	3.4118E-01	3.5296E-01	3.4673E-01	3.7916E-01
-0.69	3.5187E-01	3.7372E-01	3.4762E-01	3.6000E-01	3.5146E-01	3.8503E-01
-0.68	3.5741E-01	3.8016E-01	3.5408E-01	3.6708E-01	3.5619E-01	3.9093E-01
-0.67	3.6295E-01	3.8663E-01	3.6057E-01	3.7421E-01	3.6091E-01	3.9684E-01
-0.66	3.6849E-01	3.9313E-01	3.6707E-01	3.8138E-01	3.6562E-01	4.0279E-01
-0.65	3.7402E-01	3.9966E-01	3.7358E-01	3.8859E-01	3.7032E-01	4.0875E-01
-0.64	3.7955E-01	4.0622E-01	3.8010E-01	3.9584E-01	3.7501E-01	4.1474E-01
-0.63	3.8508E-01	4.1281E-01	3.8662E-01	4.0313E-01	3.7968E-01	4.2075E-01
-0.62	3.9059E-01	4.1942E-01	3.9315E-01	4.1045E-01	3.8433E-01	4.2677E-01
-0.61	3.9609E-01	4.2606E-01	3.9968E-01	4.1780E-01	3.8897E-01	4.3281E-01
-0.60	4.0158E-01	4.3271E-01	4.0621E-01	4.2518E-01	3.9358E-01	4.3887E-01
-0.59	4.0704E-01	4.3939E-01	4.1272E-01	4.3259E-01	3.9816E-01	4.4494E-01
-0.58	4.1249E-01	4.4608E-01	4.1923E-01	4.4002E-01	4.0272E-01	4.5103E-01
-0.57	4.1791E-01	4.5279E-01	4.2572E-01	4.4747E-01	4.0726E-01	4.5713E-01
-0.56	4.2331E-01	4.5951E-01	4.3219E-01	4.5494E-01	4.1176E-01	4.6323E-01
-0.55	4.2867E-01	4.6624E-01	4.3864E-01	4.6243E-01	4.1623E-01	4.6935E-01
-0.54	4.3400E-01	4.7298E-01	4.4506E-01	4.6993E-01	4.2067E-01	4.7547E-01
-0.53	4.3930E-01	4.7973E-01	4.5145E-01	4.7744E-01	4.2507E-01	4.8160E-01
-0.52	4.4456E-01	4.8649E-01	4.5781E-01	4.8496E-01	4.2943E-01	4.8773E-01
-0.51	4.4978E-01	4.9325E-01	4.6413E-01	4.9248E-01	4.3376E-01	4.9387E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
-0.50	4.5496E-01	5.0001E-01	4.7041E-01	5.0601E-01	4.3804E-01	5.0601E-01
-0.49	4.6009E-01	5.0677E-01	4.7665E-01	5.0753E-01	4.4227E-01	5.0614E-01
-0.48	4.6517E-01	5.1353E-01	4.8283E-01	5.1506E-01	4.4646E-01	5.1228E-01
-0.47	4.7020E-01	5.2028E-01	4.8896E-01	5.2258E-01	4.5060E-01	5.1841E-01
-0.46	4.7518E-01	5.2703E-01	4.9504E-01	5.3009E-01	4.5469E-01	5.2454E-01
-0.45	4.8009E-01	5.3377E-01	5.0106E-01	5.3759E-01	4.5873E-01	5.3066E-01
-0.44	4.8495E-01	5.4051E-01	5.0701E-01	5.4507E-01	4.6271E-01	5.3678E-01
-0.43	4.8974E-01	5.4723E-01	5.1289E-01	5.5255E-01	4.6664E-01	5.4289E-01
-0.42	4.9447E-01	5.5394E-01	5.1870E-01	5.6000E-01	4.7050E-01	5.4898E-01
-0.41	4.9913E-01	5.6063E-01	5.2444E-01	5.6743E-01	4.7431E-01	5.5507E-01
-0.40	5.0372E-01	5.6730E-01	5.3009E-01	5.7484E-01	4.7805E-01	5.6114E-01
-0.39	5.0824E-01	5.7396E-01	5.3566E-01	5.8222E-01	4.8173E-01	5.6720E-01
-0.38	5.1268E-01	5.8059E-01	5.4115E-01	5.8957E-01	4.8535E-01	5.7324E-01
-0.37	5.1704E-01	5.8720E-01	5.4654E-01	5.9689E-01	4.8889E-01	5.7927E-01
-0.36	5.2132E-01	5.9379E-01	5.5184E-01	6.0418E-01	4.9236E-01	5.8527E-01
-0.35	5.2551E-01	6.0035E-01	5.5704E-01	6.1143E-01	4.9577E-01	5.9126E-01
-0.34	5.2962E-01	6.0688E-01	5.6214E-01	6.1864E-01	4.9910E-01	5.9722E-01
-0.33	5.3364E-01	6.1338E-01	5.6714E-01	6.2581E-01	5.0235E-01	6.0317E-01
-0.32	5.3756E-01	6.1986E-01	5.7202E-01	6.3294E-01	5.0553E-01	6.0909E-01
-0.31	5.4140E-01	6.2629E-01	5.7680E-01	6.4002E-01	5.0862E-01	6.1498E-01
-0.30	5.4513E-01	6.3269E-01	5.8146E-01	6.4705E-01	5.1164E-01	6.2085E-01
-0.29	5.4877E-01	6.3906E-01	5.8600E-01	6.5404E-01	5.1457E-01	6.2669E-01
-0.28	5.5231E-01	6.4539E-01	5.9042E-01	6.6097E-01	5.1743E-01	6.3250E-01
-0.27	5.5574E-01	6.5168E-01	5.9471E-01	6.6785E-01	5.2019E-01	6.3828E-01
-0.26	5.5907E-01	6.5792E-01	5.9888E-01	6.7467E-01	5.2287E-01	6.4403E-01
-0.25	5.6229E-01	6.6412E-01	6.0291E-01	6.8144E-01	5.2546E-01	6.4974E-01
-0.24	5.6540E-01	6.7028E-01	6.0681E-01	6.8814E-01	5.2796E-01	6.5543E-01
-0.23	5.6840E-01	6.7640E-01	6.1058E-01	6.9478E-01	5.3037E-01	6.6108E-01
-0.22	5.7129E-01	6.8246E-01	6.1420E-01	7.0136E-01	5.3269E-01	6.6669E-01
-0.21	5.7406E-01	6.8848E-01	6.1769E-01	7.0788E-01	5.3491E-01	6.7226E-01
-0.20	5.7672E-01	6.9445E-01	6.2103E-01	7.1432E-01	5.3704E-01	6.7780E-01
-0.19	5.7926E-01	7.0036E-01	6.2422E-01	7.2070E-01	5.3907E-01	6.8330E-01
-0.18	5.8167E-01	7.0622E-01	6.2726E-01	7.2701E-01	5.4101E-01	6.8875E-01
-0.17	5.8397E-01	7.1203E-01	6.3015E-01	7.3325E-01	5.4284E-01	6.9417E-01
-0.16	5.8614E-01	7.1779E-01	6.3289E-01	7.3941E-01	5.4458E-01	6.9954E-01
-0.15	5.8819E-01	7.2349E-01	6.3548E-01	7.4550E-01	5.4622E-01	7.0488E-01
-0.14	5.9011E-01	7.2913E-01	6.3790E-01	7.5151E-01	5.4775E-01	7.1016E-01
-0.13	5.9190E-01	7.3471E-01	6.4017E-01	7.5745E-01	5.4919E-01	7.1541E-01
-0.12	5.9357E-01	7.4024E-01	6.4227E-01	7.6331E-01	5.5052E-01	7.2060E-01
-0.11	5.9511E-01	7.4570E-01	6.4421E-01	7.6909E-01	5.5174E-01	7.2575E-01
-0.10	5.9652E-01	7.5111E-01	6.4599E-01	7.7480E-01	5.5287E-01	7.3085E-01
-0.09	5.9779E-01	7.5645E-01	6.4760E-01	7.8042E-01	5.5388E-01	7.3591E-01
-0.08	5.9894E-01	7.6173E-01	6.4905E-01	7.8596E-01	5.5480E-01	7.4092E-01
-0.07	5.9995E-01	7.6695E-01	6.5033E-01	7.9141E-01	5.5560E-01	7.4587E-01
-0.06	6.0082E-01	7.7210E-01	6.5144E-01	7.9679E-01	5.5630E-01	7.5078E-01
-0.05	6.0157E-01	7.7719E-01	6.5238E-01	8.0208E-01	5.5690E-01	7.5563E-01
-0.04	6.0218E-01	7.8221E-01	6.5315E-01	8.0729E-01	5.5738E-01	7.6044E-01
-0.03	6.0265E-01	7.8717E-01	6.5375E-01	8.1241E-01	5.5776E-01	7.6519E-01
-0.02	6.0299E-01	7.9206E-01	6.5418E-01	8.1745E-01	5.5803E-01	7.6989E-01
-0.01	6.0319E-01	7.9688E-01	6.5444E-01	8.2240E-01	5.5819E-01	7.7453E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
0.00	6.0326E-01	8.0163E-01	6.5452E-01	8.2727E-01	5.5824E-01	7.7913E-01
0.01	6.0319E-01	8.0632E-01	6.5444E-01	8.3205E-01	5.5819E-01	7.8366E-01
0.02	6.0299E-01	8.1094E-01	6.5418E-01	8.3674E-01	5.5803E-01	7.8815E-01
0.03	6.0265E-01	8.1549E-01	6.5375E-01	8.4135E-01	5.5776E-01	7.9258E-01
0.04	6.0218E-01	8.1998E-01	6.5315E-01	8.4587E-01	5.5738E-01	7.9695E-01
0.05	6.0157E-01	8.2439E-01	6.5238E-01	8.5031E-01	5.5689E-01	8.0127E-01
0.06	6.0082E-01	8.2873E-01	6.5144E-01	8.5466E-01	5.5630E-01	8.0553E-01
0.07	5.9994E-01	8.3301E-01	6.5033E-01	8.5892E-01	5.5560E-01	8.0974E-01
0.08	5.9893E-01	8.3721E-01	6.4905E-01	8.6310E-01	5.5480E-01	8.1389E-01
0.09	5.9779E-01	8.4135E-01	6.4760E-01	8.6719E-01	5.5388E-01	8.1798E-01
0.10	5.9651E-01	8.4542E-01	6.4599E-01	8.7120E-01	5.5287E-01	8.2202E-01
0.11	5.9511E-01	8.4941E-01	6.4421E-01	8.7513E-01	5.5174E-01	8.2600E-01
0.12	5.9357E-01	8.5334E-01	6.4227E-01	8.7897E-01	5.5051E-01	8.2992E-01
0.13	5.9190E-01	8.5720E-01	6.4016E-01	8.8272E-01	5.4918E-01	8.3379E-01
0.14	5.9011E-01	8.6099E-01	6.3790E-01	8.8639E-01	5.4775E-01	8.3760E-01
0.15	5.8818E-01	8.6471E-01	6.3547E-01	8.8998E-01	5.4621E-01	8.4135E-01
0.16	5.8614E-01	8.6836E-01	6.3289E-01	8.9349E-01	5.4458E-01	8.4504E-01
0.17	5.8396E-01	8.7194E-01	6.3015E-01	8.9692E-01	5.4284E-01	8.4868E-01
0.18	5.8167E-01	8.7545E-01	6.2726E-01	9.0026E-01	5.4100E-01	8.5226E-01
0.19	5.7925E-01	8.7890E-01	6.2421E-01	9.0353E-01	5.3907E-01	8.5578E-01
0.20	5.7671E-01	8.8228E-01	6.2102E-01	9.0671E-01	5.3703E-01	8.5925E-01
0.21	5.7406E-01	8.8559E-01	6.1768E-01	9.0982E-01	5.3491E-01	8.6265E-01
0.22	5.7128E-01	8.8883E-01	6.1420E-01	9.1285E-01	5.3268E-01	8.6601E-01
0.23	5.6840E-01	8.9201E-01	6.1057E-01	9.1580E-01	5.3036E-01	8.6930E-01
0.24	5.6540E-01	8.9513E-01	6.0681E-01	9.1868E-01	5.2796E-01	8.7254E-01
0.25	5.6228E-01	8.9817E-01	6.0290E-01	9.2148E-01	5.2545E-01	8.7572E-01
0.26	5.5906E-01	9.0115E-01	5.9887E-01	9.2421E-01	5.2286E-01	8.7885E-01
0.27	5.5573E-01	9.0407E-01	5.9470E-01	9.2687E-01	5.2019E-01	8.8192E-01
0.28	5.5230E-01	9.0692E-01	5.9041E-01	9.2945E-01	5.1742E-01	8.8493E-01
0.29	5.4876E-01	9.0971E-01	5.8599E-01	9.3196E-01	5.1457E-01	8.8789E-01
0.30	5.4512E-01	9.1244E-01	5.8145E-01	9.3441E-01	5.1163E-01	8.9080E-01
0.31	5.4139E-01	9.1511E-01	5.7679E-01	9.3678E-01	5.0862E-01	8.9365E-01
0.32	5.3756E-01	9.1771E-01	5.7201E-01	9.3909E-01	5.0552E-01	8.9645E-01
0.33	5.3363E-01	9.2026E-01	5.6713E-01	9.4133E-01	5.0234E-01	8.9919E-01
0.34	5.2961E-01	9.2274E-01	5.6213E-01	9.4351E-01	4.9909E-01	9.0188E-01
0.35	5.2550E-01	9.2516E-01	5.5703E-01	9.4562E-01	4.9576E-01	9.0451E-01
0.36	5.2131E-01	9.2753E-01	5.5183E-01	9.4767E-01	4.9236E-01	9.0710E-01
0.37	5.1703E-01	9.2984E-01	5.4653E-01	9.4966E-01	4.8888E-01	9.0963E-01
0.38	5.1267E-01	9.3209E-01	5.4114E-01	9.5158E-01	4.8534E-01	9.1211E-01
0.39	5.0823E-01	9.3429E-01	5.3565E-01	9.5345E-01	4.8173E-01	9.1454E-01
0.40	5.0371E-01	9.3643E-01	5.3008E-01	9.5526E-01	4.7805E-01	9.1692E-01
0.41	4.9912E-01	9.3851E-01	5.2442E-01	9.5701E-01	4.7430E-01	9.1925E-01
0.42	4.9446E-01	9.4054E-01	5.1869E-01	9.5871E-01	4.7050E-01	9.2152E-01
0.43	4.8974E-01	9.4252E-01	5.1288E-01	9.6035E-01	4.6663E-01	9.2375E-01
0.44	4.8494E-01	9.4445E-01	5.0700E-01	9.6194E-01	4.6270E-01	9.2594E-01
0.45	4.8008E-01	9.4632E-01	5.0104E-01	9.6347E-01	4.5872E-01	9.2807E-01
0.46	4.7517E-01	9.4815E-01	4.9503E-01	9.6496E-01	4.5468E-01	9.3015E-01
0.47	4.7019E-01	9.4992E-01	4.8895E-01	9.6639E-01	4.5059E-01	9.3219E-01
0.48	4.6516E-01	9.5165E-01	4.8282E-01	9.6778E-01	4.4645E-01	9.3419E-01
0.49	4.6008E-01	9.5332E-01	4.7663E-01	9.6912E-01	4.4226E-01	9.3613E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN		FRACTION OF CHAIN		FRACTION OF CHAIN	
	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE
0.50	4.5495E-01	9.5496E-01	4.7040E-01	9.7041E-01	4.3803E-01	9.3803E-01
0.51	4.4977E-01	9.5654E-01	4.6412E-01	9.7165E-01	4.3375E-01	9.3989E-01
0.52	4.4455E-01	9.5808E-01	4.5780E-01	9.7286E-01	4.2943E-01	9.4170E-01
0.53	4.3929E-01	9.5958E-01	4.5144E-01	9.7402E-01	4.2506E-01	9.4347E-01
0.54	4.3399E-01	9.6103E-01	4.4505E-01	9.7514E-01	4.2066E-01	9.4520E-01
0.55	4.2866E-01	9.6244E-01	4.3863E-01	9.7621E-01	4.1622E-01	9.4689E-01
0.56	4.2330E-01	9.6380E-01	4.3218E-01	9.7725E-01	4.1175E-01	9.4853E-01
0.57	4.1790E-01	9.6513E-01	4.2571E-01	9.7825E-01	4.0725E-01	9.5014E-01
0.58	4.1248E-01	9.6641E-01	4.1922E-01	9.7921E-01	4.0272E-01	9.5170E-01
0.59	4.0703E-01	9.6766E-01	4.1271E-01	9.8014E-01	3.9815E-01	9.5322E-01
0.60	4.0157E-01	9.6887E-01	4.0619E-01	9.8103E-01	3.9357E-01	9.5471E-01
0.61	3.9608E-01	9.7004E-01	3.9967E-01	9.8189E-01	3.8896E-01	9.5615E-01
0.62	3.9058E-01	9.7117E-01	3.9314E-01	9.8271E-01	3.8432E-01	9.5756E-01
0.63	3.8507E-01	9.7227E-01	3.8661E-01	9.8350E-01	3.7967E-01	9.5894E-01
0.64	3.7954E-01	9.7333E-01	3.8009E-01	9.8426E-01	3.7500E-01	9.6027E-01
0.65	3.7401E-01	9.7436E-01	3.7356E-01	9.8499E-01	3.7031E-01	9.6157E-01
0.66	3.6848E-01	9.7536E-01	3.6705E-01	9.8569E-01	3.6562E-01	9.6284E-01
0.67	3.6294E-01	9.7632E-01	3.6055E-01	9.8636E-01	3.6090E-01	9.6407E-01
0.68	3.5740E-01	9.7725E-01	3.5407E-01	9.8701E-01	3.5618E-01	9.6527E-01
0.69	3.5186E-01	9.7815E-01	3.4761E-01	9.8763E-01	3.5145E-01	9.6643E-01
0.70	3.4633E-01	9.7902E-01	3.4116E-01	9.8822E-01	3.4672E-01	9.6757E-01
0.71	3.4080E-01	9.7986E-01	3.3475E-01	9.8879E-01	3.4198E-01	9.6867E-01
0.72	3.3528E-01	9.8067E-01	3.2836E-01	9.8933E-01	3.3724E-01	9.6974E-01
0.73	3.2978E-01	9.8145E-01	3.2200E-01	9.8985E-01	3.3250E-01	9.7078E-01
0.74	3.2429E-01	9.8221E-01	3.1568E-01	9.9035E-01	3.2776E-01	9.7179E-01
0.75	3.1882E-01	9.8294E-01	3.0939E-01	9.9083E-01	3.2302E-01	9.7277E-01
0.76	3.1336E-01	9.8364E-01	3.0314E-01	9.9128E-01	3.1829E-01	9.7372E-01
0.77	3.0793E-01	9.8432E-01	2.9694E-01	9.9172E-01	3.1357E-01	9.7464E-01
0.78	3.0252E-01	9.8498E-01	2.9077E-01	9.9213E-01	3.0885E-01	9.7554E-01
0.79	2.9713E-01	9.8561E-01	2.8466E-01	9.9253E-01	3.0414E-01	9.7641E-01
0.80	2.9177E-01	9.8622E-01	2.7859E-01	9.9291E-01	2.9945E-01	9.7725E-01
0.81	2.8644E-01	9.8680E-01	2.7258E-01	9.9328E-01	2.9477E-01	9.7807E-01
0.82	2.8114E-01	9.8737E-01	2.6661E-01	9.9362E-01	2.9011E-01	9.7886E-01
0.83	2.7588E-01	9.8791E-01	2.6071E-01	9.9395E-01	2.8546E-01	9.7963E-01
0.84	2.7064E-01	9.8843E-01	2.5486E-01	9.9427E-01	2.8083E-01	9.8037E-01
0.85	2.6545E-01	9.8894E-01	2.4907E-01	9.9457E-01	2.7622E-01	9.8110E-01
0.86	2.6029E-01	9.8942E-01	2.4334E-01	9.9486E-01	2.7163E-01	9.8180E-01
0.87	2.5517E-01	9.8988E-01	2.3768E-01	9.9513E-01	2.6707E-01	9.8247E-01
0.88	2.5009E-01	9.9033E-01	2.3208E-01	9.9539E-01	2.6253E-01	9.8313E-01
0.89	2.4506E-01	9.9076E-01	2.2654E-01	9.9564E-01	2.5801E-01	9.8376E-01
0.90	2.4007E-01	9.9118E-01	2.2108E-01	9.9587E-01	2.5352E-01	9.8437E-01
0.91	2.3512E-01	9.9157E-01	2.1568E-01	9.9610E-01	2.4906E-01	9.8497E-01
0.92	2.3022E-01	9.9195E-01	2.1035E-01	9.9631E-01	2.4463E-01	9.8554E-01
0.93	2.2537E-01	9.9232E-01	2.0510E-01	9.9651E-01	2.4023E-01	9.8611E-01
0.94	2.2057E-01	9.9267E-01	1.9992E-01	9.9671E-01	2.3586E-01	9.8663E-01
0.95	2.1582E-01	9.9301E-01	1.9481E-01	9.9689E-01	2.3152E-01	9.8715E-01
0.96	2.1112E-01	9.9333E-01	1.8978E-01	9.9706E-01	2.2722E-01	9.8765E-01
0.97	2.0647E-01	9.9364E-01	1.8482E-01	9.9723E-01	2.2295E-01	9.8814E-01
0.98	2.0188E-01	9.9394E-01	1.7994E-01	9.9738E-01	2.1872E-01	9.8861E-01
0.99	1.9734E-01	9.9422E-01	1.7513E-01	9.9753E-01	2.1452E-01	9.8906E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59 FRACTION OF CHAIN		SIGMA= 0.53 FRACTION OF CHAIN		SIGMA= 0.65 FRACTION OF CHAIN	
	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE
1.00	1.9286E-01	9.9450E-01	1.7041E-01	9.9767E-01	2.1037E-01	9.8949E-01
1.01	1.8843E-01	9.9476E-01	1.6576E-01	9.9781E-01	2.0625E-01	9.8991E-01
1.02	1.8406E-01	9.9501E-01	1.6119E-01	9.9793E-01	2.0217E-01	9.9032E-01
1.03	1.7975E-01	9.9525E-01	1.5670E-01	9.9805E-01	1.9813E-01	9.9071E-01
1.04	1.7550E-01	9.9548E-01	1.5230E-01	9.9817E-01	1.9414E-01	9.9109E-01
1.05	1.7131E-01	9.9569E-01	1.4797E-01	9.9828E-01	1.9018E-01	9.9145E-01
1.06	1.6717E-01	9.9590E-01	1.4372E-01	9.9838E-01	1.8627E-01	9.9180E-01
1.07	1.6310E-01	9.9610E-01	1.3955E-01	9.9847E-01	1.8240E-01	9.9214E-01
1.08	1.5908E-01	9.9630E-01	1.3546E-01	9.9856E-01	1.7858E-01	9.9247E-01
1.09	1.5513E-01	9.9648E-01	1.3146E-01	9.9865E-01	1.7480E-01	9.9278E-01
1.10	1.5124E-01	9.9665E-01	1.2753E-01	9.9873E-01	1.7106E-01	9.9308E-01
1.11	1.4741E-01	9.9682E-01	1.2368E-01	9.9881E-01	1.6737E-01	9.9337E-01
1.12	1.4364E-01	9.9698E-01	1.1992E-01	9.9888E-01	1.6373E-01	9.9365E-01
1.13	1.3994E-01	9.9713E-01	1.1623E-01	9.9895E-01	1.6014E-01	9.9392E-01
1.14	1.3629E-01	9.9728E-01	1.1262E-01	9.9901E-01	1.5659E-01	9.9418E-01
1.15	1.3271E-01	9.9742E-01	1.0909E-01	9.9907E-01	1.5308E-01	9.9443E-01
1.16	1.2919E-01	9.9755E-01	1.0564E-01	9.9913E-01	1.4963E-01	9.9467E-01
1.17	1.2574E-01	9.9768E-01	1.0227E-01	9.9919E-01	1.4623E-01	9.9490E-01
1.18	1.2234E-01	9.9780E-01	9.8977E-02	9.9924E-01	1.4287E-01	9.9513E-01
1.19	1.1901E-01	9.9791E-01	9.5760E-02	9.9929E-01	1.3956E-01	9.9534E-01
1.20	1.1574E-01	9.9802E-01	9.2619E-02	9.9933E-01	1.3630E-01	9.9554E-01
1.21	1.1253E-01	9.9812E-01	8.9554E-02	9.9937E-01	1.3309E-01	9.9574E-01
1.22	1.0939E-01	9.9822E-01	8.6565E-02	9.9941E-01	1.2992E-01	9.9593E-01
1.23	1.0630E-01	9.9832E-01	8.3649E-02	9.9945E-01	1.2681E-01	9.9611E-01
1.24	1.0328E-01	9.9841E-01	8.0807E-02	9.9949E-01	1.2375E-01	9.9629E-01
1.25	1.0032E-01	9.9849E-01	7.8038E-02	9.9952E-01	1.2073E-01	9.9645E-01
1.26	9.7420E-02	9.9857E-01	7.5340E-02	9.9955E-01	1.1776E-01	9.9661E-01
1.27	9.4579E-02	9.9865E-01	7.2714E-02	9.9958E-01	1.1485E-01	9.9677E-01
1.28	9.1799E-02	9.9872E-01	7.0157E-02	9.9961E-01	1.1198E-01	9.9691E-01
1.29	8.9078E-02	9.9879E-01	6.7669E-02	9.9963E-01	1.0916E-01	9.9706E-01
1.30	8.6417E-02	9.9886E-01	6.5250E-02	9.9966E-01	1.0639E-01	9.9719E-01
1.31	8.3814E-02	9.9892E-01	6.2898E-02	9.9968E-01	1.0367E-01	9.9732E-01
1.32	8.1269E-02	9.9898E-01	6.0612E-02	9.9970E-01	1.0100E-01	9.9744E-01
1.33	7.8782E-02	9.9904E-01	5.8390E-02	9.9972E-01	9.8376E-02	9.9756E-01
1.34	7.6352E-02	9.9909E-01	5.6233E-02	9.9974E-01	9.5801E-02	9.9768E-01
1.35	7.3978E-02	9.9914E-01	5.4139E-02	9.9976E-01	9.3274E-02	9.9779E-01
1.36	7.1660E-02	9.9919E-01	5.2107E-02	9.9978E-01	9.0795E-02	9.9789E-01
1.37	6.9398E-02	9.9924E-01	5.0135E-02	9.9979E-01	8.8363E-02	9.9799E-01
1.38	6.7190E-02	9.9928E-01	4.8223E-02	9.9981E-01	8.5978E-02	9.9809E-01
1.39	6.5035E-02	9.9932E-01	4.6369E-02	9.9982E-01	8.3641E-02	9.9818E-01
1.40	6.2935E-02	9.9936E-01	4.4573E-02	9.9983E-01	8.1350E-02	9.9827E-01
1.41	6.0886E-02	9.9940E-01	4.2833E-02	9.9984E-01	7.9105E-02	9.9835E-01
1.42	5.8890E-02	9.9943E-01	4.1148E-02	9.9985E-01	7.6907E-02	9.9843E-01
1.43	5.6944E-02	9.9946E-01	3.9517E-02	9.9986E-01	7.4753E-02	9.9851E-01
1.44	5.5049E-02	9.9950E-01	3.7938E-02	9.9987E-01	7.2645E-02	9.9858E-01
1.45	5.3204E-02	9.9953E-01	3.6412E-02	9.9988E-01	7.0582E-02	9.9865E-01
1.46	5.1407E-02	9.9955E-01	3.4936E-02	9.9989E-01	6.8563E-02	9.9872E-01
1.47	4.9659E-02	9.9958E-01	3.3509E-02	9.9990E-01	6.6588E-02	9.9878E-01
1.48	4.7958E-02	9.9960E-01	3.2130E-02	9.9991E-01	6.4656E-02	9.9884E-01
1.49	4.6303E-02	9.9963E-01	3.0798E-02	9.9991E-01	6.2767E-02	9.9890E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59 FRACTION OF CHAIN		SIGMA= 0.53 FRACTION OF CHAIN		SIGMA= 0.65 FRACTION OF CHAIN	
	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE
1.50	4.4695E-02	9.9965E-01	2.9512E-02	9.9992E-01	6.0920E-02	9.9895E-01
1.51	4.3131E-02	9.9967E-01	2.8271E-02	9.9993E-01	5.9116E-02	9.9901E-01
1.52	4.1611E-02	9.9969E-01	2.7074E-02	9.9993E-01	5.7353E-02	9.9906E-01
1.53	4.0135E-02	9.9971E-01	2.5919E-02	9.9994E-01	5.5630E-02	9.9911E-01
1.54	3.8701E-02	9.9973E-01	2.4805E-02	9.9994E-01	5.3949E-02	9.9915E-01
1.55	3.7309E-02	9.9974E-01	2.3732E-02	9.9995E-01	5.2306E-02	9.9919E-01
1.56	3.5957E-02	9.9976E-01	2.2698E-02	9.9995E-01	5.0704E-02	9.9924E-01
1.57	3.4646E-02	9.9977E-01	2.1703E-02	9.9995E-01	4.9140E-02	9.9928E-01
1.58	3.3374E-02	9.9979E-01	2.0744E-02	9.9996E-01	4.7614E-02	9.9931E-01
1.59	3.2141E-02	9.9980E-01	1.9821E-02	9.9996E-01	4.6126E-02	9.9935E-01
1.60	3.0945E-02	9.9981E-01	1.8933E-02	9.9996E-01	4.4675E-02	9.9938E-01
1.61	2.9786E-02	9.9983E-01	1.8080E-02	9.9997E-01	4.3260E-02	9.9942E-01
1.62	2.8664E-02	9.9984E-01	1.7259E-02	9.9997E-01	4.1882E-02	9.9945E-01
1.63	2.7576E-02	9.9985E-01	1.6470E-02	9.9997E-01	4.0539E-02	9.9948E-01
1.64	2.6523E-02	9.9986E-01	1.5713E-02	9.9997E-01	3.9230E-02	9.9950E-01
1.65	2.5503E-02	9.9987E-01	1.4985E-02	9.9998E-01	3.7956E-02	9.9953E-01
1.66	2.4517E-02	9.9987E-01	1.4286E-02	9.9998E-01	3.6715E-02	9.9955E-01
1.67	2.3562E-02	9.9988E-01	1.3616E-02	9.9998E-01	3.5508E-02	9.9958E-01
1.68	2.2639E-02	9.9989E-01	1.2973E-02	9.9998E-01	3.4333E-02	9.9960E-01
1.69	2.1747E-02	9.9990E-01	1.2356E-02	9.9998E-01	3.3189E-02	9.9962E-01
1.70	2.0884E-02	9.9990E-01	1.1765E-02	9.9998E-01	3.2077E-02	9.9964E-01
1.71	2.0050E-02	9.9991E-01	1.1199E-02	9.9998E-01	3.0996E-02	9.9966E-01
1.72	1.9245E-02	9.9992E-01	1.0656E-02	9.9999E-01	2.9945E-02	9.9968E-01
1.73	1.8467E-02	9.9992E-01	1.0137E-02	9.9999E-01	2.8923E-02	9.9970E-01
1.74	1.7716E-02	9.9993E-01	9.6393E-03	9.9999E-01	2.7930E-02	9.9972E-01
1.75	1.6991E-02	9.9993E-01	9.1634E-03	9.9999E-01	2.6966E-02	9.9973E-01
1.76	1.6292E-02	9.9994E-01	8.7081E-03	9.9999E-01	2.6029E-02	9.9975E-01
1.77	1.5617E-02	9.9994E-01	8.2728E-03	9.9999E-01	2.5119E-02	9.9976E-01
1.78	1.4966E-02	9.9994E-01	7.8567E-03	9.9999E-01	2.4236E-02	9.9977E-01
1.79	1.4339E-02	9.9995E-01	7.4591E-03	9.9999E-01	2.3379E-02	9.9979E-01
1.80	1.3735E-02	9.9995E-01	7.0794E-03	9.9999E-01	2.2548E-02	9.9980E-01
1.81	1.3152E-02	9.9995E-01	6.7168E-03	9.9999E-01	2.1742E-02	9.9981E-01
1.82	1.2591E-02	9.9996E-01	6.3707E-03	9.9999E-01	2.0959E-02	9.9982E-01
1.83	1.2051E-02	9.9996E-01	6.0405E-03	1.0000E 00	2.0201E-02	9.9983E-01
1.84	1.1531E-02	9.9996E-01	5.7255E-03	1.0000E 00	1.9466E-02	9.9984E-01
1.85	1.1030E-02	9.9997E-01	5.4252E-03	1.0000E 00	1.8754E-02	9.9985E-01
1.86	1.0549E-02	9.9997E-01	5.1389E-03	1.0000E 00	1.8064E-02	9.9986E-01
1.87	1.0086E-02	9.9997E-01	4.8662E-03	1.0000E 00	1.7395E-02	9.9987E-01
1.88	9.6403E-03	9.9997E-01	4.6064E-03	1.0000E 00	1.6748E-02	9.9987E-01
1.89	9.2122E-03	9.9997E-01	4.3591E-03	1.0000E 00	1.6121E-02	9.9988E-01
1.90	8.8009E-03	9.9998E-01	4.1237E-03	1.0000E 00	1.5514E-02	9.9989E-01
1.91	8.4056E-03	9.9998E-01	3.8998E-03	1.0000E 00	1.4927E-02	9.9990E-01
1.92	8.0261E-03	9.9998E-01	3.6868E-03	1.0000E 00	1.4360E-02	9.9990E-01
1.93	7.6617E-03	9.9998E-01	3.4843E-03	1.0000E 00	1.3810E-02	9.9991E-01
1.94	7.3118E-03	9.9998E-01	3.2918E-03	1.0000E 00	1.3279E-02	9.9991E-01
1.95	6.9762E-03	9.9998E-01	3.1090E-03	1.0000E 00	1.2766E-02	9.9992E-01
1.96	6.6542E-03	9.9998E-01	2.9353E-03	1.0000E 00	1.2270E-02	9.9992E-01
1.97	6.3454E-03	9.9999E-01	2.7705E-03	1.0000E 00	1.1790E-02	9.9993E-01
1.98	6.0493E-03	9.9999E-01	2.6140E-03	1.0000E 00	1.1327E-02	9.9993E-01
1.99	5.7655E-03	9.9999E-01	2.4655E-03	1.0000E 00	1.0880E-02	9.9994E-01

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
2.00	5.4936E-03	9.9999E-01	2.3248E-03	1.0000E 00	1.0448E-02	9.9994E-01
2.01	5.2331E-03	9.9999E-01	2.1913E-03	1.0000E 00	1.0031E-02	9.9994E-01
2.02	4.9837E-03	9.9999E-01	2.0648E-03	1.0000E 00	9.6284E-03	9.9995E-01
2.03	4.7449E-03	9.9999E-01	1.9450E-03	1.0000E 00	9.2401E-03	9.9995E-01
2.04	4.5164E-03	9.9999E-01	1.8315E-03	1.0000E 00	8.8656E-03	9.9995E-01
2.05	4.2977E-03	9.9999E-01	1.7241E-03	1.0000E 00	8.5044E-03	9.9996E-01
2.06	4.0885E-03	9.9999E-01	1.6225E-03	1.0000E 00	8.1562E-03	9.9996E-01
2.07	3.8885E-03	9.9999E-01	1.5263E-03	1.0000E 00	7.8205E-03	9.9996E-01
2.08	3.6973E-03	9.9999E-01	1.4354E-03	1.0000E 00	7.4971E-03	9.9996E-01
2.09	3.5145E-03	1.0000E 00	1.3494E-03	1.0000E 00	7.1854E-03	9.9997E-01
2.10	3.3400E-03	1.0000E 00	1.2681E-03	1.0000E 00	6.8852E-03	9.9997E-01
2.11	3.1732E-03	1.0000E 00	1.1914E-03	1.0000E 00	6.5961E-03	9.9997E-01
2.12	3.0140E-03	1.0000E 00	1.1189E-03	1.0000E 00	6.3178E-03	9.9997E-01
2.13	2.8619E-03	1.0000E 00	1.0505E-03	1.0000E 00	6.0499E-03	9.9997E-01
2.14	2.7169E-03	1.0000E 00	9.8596E-04	1.0000E 00	5.7921E-03	9.9998E-01
2.15	2.5785E-03	1.0000E 00	9.2506E-04	1.0000E 00	5.5440E-03	9.9998E-01
2.16	2.4465E-03	1.0000E 00	8.6763E-04	1.0000E 00	5.3055E-03	9.9998E-01
2.17	2.3206E-03	1.0000E 00	8.1351E-04	1.0000E 00	5.0761E-03	9.9998E-01
2.18	2.2007E-03	1.0000E 00	7.6250E-04	1.0000E 00	4.8555E-03	9.9998E-01
2.19	2.0864E-03	1.0000E 00	7.1445E-04	1.0000E 00	4.6436E-03	9.9998E-01
2.20	1.9774E-03	1.0000E 00	6.6921E-04	1.0000E 00	4.4399E-03	9.9998E-01
2.21	1.8737E-03	1.0000E 00	6.2663E-04	1.0000E 00	4.2442E-03	9.9998E-01
2.22	1.7750E-03	1.0000E 00	5.8655E-04	1.0000E 00	4.0562E-03	9.9999E-01
2.23	1.6810E-03	1.0000E 00	5.4886E-04	1.0000E 00	3.8758E-03	9.9999E-01
2.24	1.5915E-03	1.0000E 00	5.1342E-04	1.0000E 00	3.7025E-03	9.9999E-01
2.25	1.5064E-03	1.0000E 00	4.8011E-04	1.0000E 00	3.5362E-03	9.9999E-01
2.26	1.4255E-03	1.0000E 00	4.4881E-04	1.0000E 00	3.3767E-03	9.9999E-01
2.27	1.3486E-03	1.0000E 00	4.1941E-04	1.0000E 00	3.2236E-03	9.9999E-01
2.28	1.2754E-03	1.0000E 00	3.9180E-04	1.0000E 00	3.0768E-03	9.9999E-01
2.29	1.2060E-03	1.0000E 00	3.6589E-04	1.0000E 00	2.9361E-03	9.9999E-01
2.30	1.1400E-03	1.0000E 00	3.4158E-04	1.0000E 00	2.8011E-03	9.9999E-01
2.31	1.0773E-03	1.0000E 00	3.1877E-04	1.0000E 00	2.6718E-03	9.9999E-01
2.32	1.0178E-03	1.0000E 00	2.9739E-04	1.0000E 00	2.5479E-03	9.9999E-01
2.33	9.6129E-04	1.0000E 00	2.7735E-04	1.0000E 00	2.4292E-03	9.9999E-01
2.34	9.0771E-04	1.0000E 00	2.5858E-04	1.0000E 00	2.3155E-03	9.9999E-01
2.35	8.5688E-04	1.0000E 00	2.4099E-04	1.0000E 00	2.2067E-03	1.0000E 00
2.36	8.0868E-04	1.0000E 00	2.2453E-04	1.0000E 00	2.1025E-03	1.0000E 00
2.37	7.6298E-04	1.0000E 00	2.0912E-04	1.0000E 00	2.0028E-03	1.0000E 00
2.38	7.1968E-04	1.0000E 00	1.9470E-04	1.0000E 00	1.9074E-03	1.0000E 00
2.39	6.7865E-04	1.0000E 00	1.8121E-04	1.0000E 00	1.8161E-03	1.0000E 00
2.40	6.3978E-04	1.0000E 00	1.6861E-04	1.0000E 00	1.7289E-03	1.0000E 00
2.41	6.0298E-04	1.0000E 00	1.5682E-04	1.0000E 00	1.6454E-03	1.0000E 00
2.42	5.6815E-04	1.0000E 00	1.4581E-04	1.0000E 00	1.5657E-03	1.0000E 00
2.43	5.3518E-04	1.0000E 00	1.3553E-04	1.0000E 00	1.4895E-03	1.0000E 00
2.44	5.0399E-04	1.0000E 00	1.2593E-04	1.0000E 00	1.4166E-03	1.0000E 00
2.45	4.7449E-04	1.0000E 00	1.1697E-04	1.0000E 00	1.3471E-03	1.0000E 00
2.46	4.4659E-04	1.0000E 00	1.0862E-04	1.0000E 00	1.2806E-03	1.0000E 00
2.47	4.2022E-04	1.0000E 00	1.0082E-04	1.0000E 00	1.2172E-03	1.0000E 00
2.48	3.9530E-04	1.0000E 00	9.3554E-05	1.0000E 00	1.1567E-03	1.0000E 00
2.49	3.7176E-04	1.0000E 00	8.6782E-05	1.0000E 00	1.0989E-03	1.0000E 00

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN		FRACTION OF CHAIN		FRACTION OF CHAIN	
	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE	INDEPENDENT	CUMULATIVE
2.50	3.4953E-04	1.0000E 00	8.0472E-05	1.0000E 00	1.0438E-03	1.0000E 00
2.51	3.2854E-04	1.0000E 00	7.4597E-05	1.0000E 00	9.9124E-04	1.0000E 00
2.52	3.0872E-04	1.0000E 00	6.9126E-05	1.0000E 00	9.4111E-04	1.0000E 00
2.53	2.9002E-04	1.0000E 00	6.4036E-05	1.0000E 00	8.9331E-04	1.0000E 00
2.54	2.7238E-04	1.0000E 00	5.9300E-05	1.0000E 00	8.4776E-04	1.0000E 00
2.55	2.5575E-04	1.0000E 00	5.4896E-05	1.0000E 00	8.0435E-04	1.0000E 00
2.56	2.4006E-04	1.0000E 00	5.0801E-05	1.0000E 00	7.6299E-04	1.0000E 00
2.57	2.2528E-04	1.0000E 00	4.6997E-05	1.0000E 00	7.2360E-04	1.0000E 00
2.58	2.1134E-04	1.0000E 00	4.3462E-05	1.0000E 00	6.8609E-04	1.0000E 00
2.59	1.9822E-04	1.0000E 00	4.0180E-05	1.0000E 00	6.5038E-04	1.0000E 00
2.60	1.8586E-04	1.0000E 00	3.7133E-05	1.0000E 00	6.1640E-04	1.0000E 00
2.61	1.7423E-04	1.0000E 00	3.4305E-05	1.0000E 00	5.8406E-04	1.0000E 00
2.62	1.6328E-04	1.0000E 00	3.1682E-05	1.0000E 00	5.5329E-04	1.0000E 00
2.63	1.5297E-04	1.0000E 00	2.9250E-05	1.0000E 00	5.2403E-04	1.0000E 00
2.64	1.4328E-04	1.0000E 00	2.6995E-05	1.0000E 00	4.9620E-04	1.0000E 00
2.65	1.3416E-04	1.0000E 00	2.4905E-05	1.0000E 00	4.6975E-04	1.0000E 00
2.66	1.2559E-04	1.0000E 00	2.2970E-05	1.0000E 00	4.4461E-04	1.0000E 00
2.67	1.1754E-04	1.0000E 00	2.1178E-05	1.0000E 00	4.2072E-04	1.0000E 00
2.68	1.0997E-04	1.0000E 00	1.9518E-05	1.0000E 00	3.9802E-04	1.0000E 00
2.69	1.0286E-04	1.0000E 00	1.7983E-05	1.0000E 00	3.7647E-04	1.0000E 00
2.70	9.6186E-05	1.0000E 00	1.6563E-05	1.0000E 00	3.5600E-04	1.0000E 00
2.71	8.9919E-05	1.0000E 00	1.5250E-05	1.0000E 00	3.3657E-04	1.0000E 00
2.72	8.4038E-05	1.0000E 00	1.4036E-05	1.0000E 00	3.1813E-04	1.0000E 00
2.73	7.8520E-05	1.0000E 00	1.2915E-05	1.0000E 00	3.0064E-04	1.0000E 00
2.74	7.3345E-05	1.0000E 00	1.1879E-05	1.0000E 00	2.8404E-04	1.0000E 00
2.75	6.8492E-05	1.0000E 00	1.0922E-05	1.0000E 00	2.6830E-04	1.0000E 00
2.76	6.3942E-05	1.0000E 00	1.0039E-05	1.0000E 00	2.5337E-04	1.0000E 00
2.77	5.9678E-05	1.0000E 00	9.2242E-06	1.0000E 00	2.3922E-04	1.0000E 00
2.78	5.5684E-05	1.0000E 00	8.4727E-06	1.0000E 00	2.2581E-04	1.0000E 00
2.79	5.1943E-05	1.0000E 00	7.7797E-06	1.0000E 00	2.1311E-04	1.0000E 00
2.80	4.8440E-05	1.0000E 00	7.1410E-06	1.0000E 00	2.0107E-04	1.0000E 00
2.81	4.5160E-05	1.0000E 00	6.5525E-06	1.0000E 00	1.8967E-04	1.0000E 00
2.82	4.2092E-05	1.0000E 00	6.0105E-06	1.0000E 00	1.7888E-04	1.0000E 00
2.83	3.9221E-05	1.0000E 00	5.5114E-06	1.0000E 00	1.6867E-04	1.0000E 00
2.84	3.6539E-05	1.0000E 00	5.0520E-06	1.0000E 00	1.5900E-04	1.0000E 00
2.85	3.4025E-05	1.0000E 00	4.6293E-06	1.0000E 00	1.4985E-04	1.0000E 00
2.86	3.1678E-05	1.0000E 00	4.2406E-06	1.0000E 00	1.4120E-04	1.0000E 00
2.87	2.9485E-05	1.0000E 00	3.8831E-06	1.0000E 00	1.3302E-04	1.0000E 00
2.88	2.7436E-05	1.0000E 00	3.5546E-06	1.0000E 00	1.2528E-04	1.0000E 00
2.89	2.5523E-05	1.0000E 00	3.2528E-06	1.0000E 00	1.1797E-04	1.0000E 00
2.90	2.3737E-05	1.0000E 00	2.9755E-06	1.0000E 00	1.1106E-04	1.0000E 00
2.91	2.2069E-05	1.0000E 00	2.7210E-06	1.0000E 00	1.0453E-04	1.0000E 00
2.92	2.0513E-05	1.0000E 00	2.4874E-06	1.0000E 00	9.8357E-05	1.0000E 00
2.93	1.9062E-05	1.0000E 00	2.2731E-06	1.0000E 00	9.2533E-05	1.0000E 00
2.94	1.7708E-05	1.0000E 00	2.0765E-06	1.0000E 00	8.7033E-05	1.0000E 00
2.95	1.6446E-05	1.0000E 00	1.8963E-06	1.0000E 00	8.1842E-05	1.0000E 00
2.96	1.5270E-05	1.0000E 00	1.7311E-06	1.0000E 00	7.6944E-05	1.0000E 00
2.97	1.4174E-05	1.0000E 00	1.5798E-06	1.0000E 00	7.2322E-05	1.0000E 00
2.98	1.3153E-05	1.0000E 00	1.4412E-06	1.0000E 00	6.7963E-05	1.0000E 00
2.99	1.2202E-05	1.0000E 00	1.3143E-06	1.0000E 00	6.3852E-05	1.0000E 00

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
3.00	1.1317E-05	1.0000E 00	1.1982E-06	1.0000E 00	5.9976E-05	1.0000E 00
3.01	1.0493E-05	1.0000E 00	1.0919E-06	1.0000E 00	5.6323E-05	1.0000E 00
3.02	9.7267E-06	1.0000E 00	9.9476E-07	1.0000E 00	5.2880E-05	1.0000E 00
3.03	9.0137E-06	1.0000E 00	9.0593E-07	1.0000E 00	4.9637E-05	1.0000E 00
3.04	8.3506E-06	1.0000E 00	8.2476E-07	1.0000E 00	4.6582E-05	1.0000E 00
3.05	7.7342E-06	1.0000E 00	7.5059E-07	1.0000E 00	4.3705E-05	1.0000E 00
3.06	7.1613E-06	1.0000E 00	6.8287E-07	1.0000E 00	4.0997E-05	1.0000E 00
3.07	6.6291E-06	1.0000E 00	6.2104E-07	1.0000E 00	3.8447E-05	1.0000E 00
3.08	6.1347E-06	1.0000E 00	5.6461E-07	1.0000E 00	3.6049E-05	1.0000E 00
3.09	5.6756E-06	1.0000E 00	5.1314E-07	1.0000E 00	3.3792E-05	1.0000E 00
3.10	5.2494E-06	1.0000E 00	4.6620E-07	1.0000E 00	3.1669E-05	1.0000E 00
3.11	4.8539E-06	1.0000E 00	4.2340E-07	1.0000E 00	2.9673E-05	1.0000E 00
3.12	4.4869E-06	1.0000E 00	3.8441E-07	1.0000E 00	2.7797E-05	1.0000E 00
3.13	4.1466E-06	1.0000E 00	3.4888E-07	1.0000E 00	2.6033E-05	1.0000E 00
3.14	3.8310E-06	1.0000E 00	3.1653E-07	1.0000E 00	2.4376E-05	1.0000E 00
3.15	3.5384E-06	1.0000E 00	2.8708E-07	1.0000E 00	2.2819E-05	1.0000E 00
3.16	3.2673E-06	1.0000E 00	2.6028E-07	1.0000E 00	2.1356E-05	1.0000E 00
3.17	3.0162E-06	1.0000E 00	2.3590E-07	1.0000E 00	1.9983E-05	1.0000E 00
3.18	2.7835E-06	1.0000E 00	2.1373E-07	1.0000E 00	1.8694E-05	1.0000E 00
3.19	2.5681E-06	1.0000E 00	1.9358E-07	1.0000E 00	1.7484E-05	1.0000E 00
3.20	2.3687E-06	1.0000E 00	1.7527E-07	1.0000E 00	1.6349E-05	1.0000E 00
3.21	2.1842E-06	1.0000E 00	1.5863E-07	1.0000E 00	1.5284E-05	1.0000E 00
3.22	2.0135E-06	1.0000E 00	1.4353E-07	1.0000E 00	1.4285E-05	1.0000E 00
3.23	1.8557E-06	1.0000E 00	1.2982E-07	1.0000E 00	1.3349E-05	1.0000E 00
3.24	1.7097E-06	1.0000E 00	1.1737E-07	1.0000E 00	1.2471E-05	1.0000E 00
3.25	1.5748E-06	1.0000E 00	1.0609E-07	1.0000E 00	1.1648E-05	1.0000E 00
3.26	1.4501E-06	1.0000E 00	9.5852E-08	1.0000E 00	1.0877E-05	1.0000E 00
3.27	1.3350E-06	1.0000E 00	8.6576E-08	1.0000E 00	1.0154E-05	1.0000E 00
3.28	1.2286E-06	1.0000E 00	7.8170E-08	1.0000E 00	9.4778E-06	1.0000E 00
3.29	1.1304E-06	1.0000E 00	7.0556E-08	1.0000E 00	8.8443E-06	1.0000E 00
3.30	1.0398E-06	1.0000E 00	6.3661E-08	1.0000E 00	8.2513E-06	1.0000E 00
3.31	9.5611E-07	1.0000E 00	5.7421E-08	1.0000E 00	7.6964E-06	1.0000E 00
3.32	8.7896E-07	1.0000E 00	5.1774E-08	1.0000E 00	7.1771E-06	1.0000E 00
3.33	8.0781E-07	1.0000E 00	4.6667E-08	1.0000E 00	6.6914E-06	1.0000E 00
3.34	7.4221E-07	1.0000E 00	4.2049E-08	1.0000E 00	6.2371E-06	1.0000E 00
3.35	6.8175E-07	1.0000E 00	3.7874E-08	1.0000E 00	5.8123E-06	1.0000E 00
3.36	6.2605E-07	1.0000E 00	3.4103E-08	1.0000E 00	5.4152E-06	1.0000E 00
3.37	5.7473E-07	1.0000E 00	3.0696E-08	1.0000E 00	5.0441E-06	1.0000E 00
3.38	5.2748E-07	1.0000E 00	2.7620E-08	1.0000E 00	4.6974E-06	1.0000E 00
3.39	4.8397E-07	1.0000E 00	2.4844E-08	1.0000E 00	4.3735E-06	1.0000E 00
3.40	4.4393E-07	1.0000E 00	2.2339E-08	1.0000E 00	4.0710E-06	1.0000E 00
3.41	4.0709E-07	1.0000E 00	2.0080E-08	1.0000E 00	3.7886E-06	1.0000E 00
3.42	3.7321E-07	1.0000E 00	1.8043E-08	1.0000E 00	3.5250E-06	1.0000E 00
3.43	3.4205E-07	1.0000E 00	1.6207E-08	1.0000E 00	3.2790E-06	1.0000E 00
3.44	3.1340E-07	1.0000E 00	1.4553E-08	1.0000E 00	3.0494E-06	1.0000E 00
3.45	2.8708E-07	1.0000E 00	1.3063E-08	1.0000E 00	2.8353E-06	1.0000E 00
3.46	2.6289E-07	1.0000E 00	1.1721E-08	1.0000E 00	2.6356E-06	1.0000E 00
3.47	2.4067E-07	1.0000E 00	1.0514E-08	1.0000E 00	2.4494E-06	1.0000E 00
3.48	2.2027E-07	1.0000E 00	9.4277E-09	1.0000E 00	2.2758E-06	1.0000E 00
3.49	2.0154E-07	1.0000E 00	8.4508E-09	1.0000E 00	2.1141E-06	1.0000E 00

VALUES OF GAUSSIAN CHARGE DISTRIBUTION CURVES

Z-Z(P)	SIGMA= 0.59		SIGMA= 0.53		SIGMA= 0.65	
	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE	FRACTION OF CHAIN INDEPENDENT	FRACTION OF CHAIN CUMULATIVE
3.50	1.8436E-07	1.0000E 00	7.5725E-09	1.0000E 00	1.9634E-06	1.0000E 00
3.51	1.6859E-07	1.0000E 00	6.7832E-09	1.0000E 00	1.8231E-06	1.0000E 00
3.52	1.5413E-07	1.0000E 00	6.0740E-09	1.0000E 00	1.6923E-06	1.0000E 00
3.53	1.4087E-07	1.0000E 00	5.4370E-09	1.0000E 00	1.5706E-06	1.0000E 00
3.54	1.2871E-07	1.0000E 00	4.8652E-09	1.0000E 00	1.4574E-06	1.0000E 00
3.55	1.1757E-07	1.0000E 00	4.3520E-09	1.0000E 00	1.3519E-06	1.0000E 00
3.56	1.0737E-07	1.0000E 00	3.8916E-09	1.0000E 00	1.2539E-06	1.0000E 00
3.57	9.8021E-08	1.0000E 00	3.4787E-09	1.0000E 00	1.1626E-06	1.0000E 00
3.58	8.9463E-08	1.0000E 00	3.1085E-09	1.0000E 00	1.0778E-06	1.0000E 00
3.59	8.1630E-08	1.0000E 00	2.7768E-09	1.0000E 00	9.9893E-07	1.0000E 00
3.60	7.4462E-08	1.0000E 00	2.4796E-09	1.0000E 00	9.2562E-07	1.0000E 00
3.61	6.7904E-08	1.0000E 00	2.2134E-09	1.0000E 00	8.5749E-07	1.0000E 00
3.62	6.1907E-08	1.0000E 00	1.9752E-09	1.0000E 00	7.9419E-07	1.0000E 00
3.63	5.6423E-08	1.0000E 00	1.7619E-09	1.0000E 00	7.3540E-07	1.0000E 00
3.64	5.1411E-08	1.0000E 00	1.5712E-09	1.0000E 00	6.8081E-07	1.0000E 00
3.65	4.6831E-08	1.0000E 00	1.4006E-09	1.0000E 00	6.3012E-07	1.0000E 00
3.66	4.2648E-08	1.0000E 00	1.2481E-09	1.0000E 00	5.8308E-07	1.0000E 00
3.67	3.8827E-08	1.0000E 00	1.1118E-09	1.0000E 00	5.3942E-07	1.0000E 00
3.68	3.5338E-08	1.0000E 00	9.9004E-10	1.0000E 00	4.9892E-07	1.0000E 00
3.69	3.2154E-08	1.0000E 00	8.8132E-10	1.0000E 00	4.6135E-07	1.0000E 00
3.70	2.9249E-08	1.0000E 00	7.8426E-10	1.0000E 00	4.2652E-07	1.0000E 00
3.71	2.6599E-08	1.0000E 00	6.9766E-10	1.0000E 00	3.9422E-07	1.0000E 00
3.72	2.4182E-08	1.0000E 00	6.2040E-10	1.0000E 00	3.6429E-07	1.0000E 00
3.73	2.1979E-08	1.0000E 00	5.5150E-10	1.0000E 00	3.3655E-07	1.0000E 00
3.74	1.9971E-08	1.0000E 00	4.9009E-10	1.0000E 00	3.1086E-07	1.0000E 00
3.75	1.8141E-08	1.0000E 00	4.3536E-10	1.0000E 00	2.8706E-07	1.0000E 00
3.76	1.6475E-08	1.0000E 00	3.8661E-10	1.0000E 00	2.6502E-07	1.0000E 00
3.77	1.4957E-08	1.0000E 00	3.4320E-10	1.0000E 00	2.4462E-07	1.0000E 00
3.78	1.3575E-08	1.0000E 00	3.0456E-10	1.0000E 00	2.2573E-07	1.0000E 00
3.79	1.2318E-08	1.0000E 00	2.7017E-10	1.0000E 00	2.0826E-07	1.0000E 00
3.80	1.1173E-08	1.0000E 00	2.3959E-10	1.0000E 00	1.9210E-07	1.0000E 00
3.81	1.0133E-08	1.0000E 00	2.1239E-10	1.0000E 00	1.7714E-07	1.0000E 00
3.82	9.1865E-09	1.0000E 00	1.8821E-10	1.0000E 00	1.6332E-07	1.0000E 00
3.83	8.3262E-09	1.0000E 00	1.6673E-10	1.0000E 00	1.5054E-07	1.0000E 00
3.84	7.5444E-09	1.0000E 00	1.4765E-10	1.0000E 00	1.3873E-07	1.0000E 00
3.85	6.8341E-09	1.0000E 00	1.3071E-10	1.0000E 00	1.2781E-07	1.0000E 00
3.86	6.1889E-09	1.0000E 00	1.1567E-10	1.0000E 00	1.1773E-07	1.0000E 00
3.87	5.6031E-09	1.0000E 00	1.0232E-10	1.0000E 00	1.0842E-07	1.0000E 00
3.88	5.0713E-09	1.0000E 00	9.0489E-11	1.0000E 00	9.9821E-08	1.0000E 00
3.89	4.5887E-09	1.0000E 00	7.9994E-11	1.0000E 00	9.1883E-08	1.0000E 00
3.90	4.1508E-09	1.0000E 00	7.0691E-11	1.0000E 00	8.4557E-08	1.0000E 00
3.91	3.7537E-09	1.0000E 00	6.2449E-11	1.0000E 00	7.7798E-08	1.0000E 00
3.92	3.3937E-09	1.0000E 00	5.5148E-11	1.0000E 00	7.1562E-08	1.0000E 00
3.93	3.0673E-09	1.0000E 00	4.8684E-11	1.0000E 00	6.5811E-08	1.0000E 00
3.94	2.7715E-09	1.0000E 00	4.2963E-11	1.0000E 00	6.0509E-08	1.0000E 00
3.95	2.5035E-09	1.0000E 00	3.7901E-11	1.0000E 00	5.5620E-08	1.0000E 00
3.96	2.2609E-09	1.0000E 00	3.3424E-11	1.0000E 00	5.1115E-08	1.0000E 00
3.97	2.0411E-09	1.0000E 00	2.9465E-11	1.0000E 00	4.6964E-08	1.0000E 00
3.98	1.8423E-09	1.0000E 00	2.5966E-11	1.0000E 00	4.3141E-08	1.0000E 00
3.99	1.6623E-09	1.0000E 00	2.2875E-11	1.0000E 00	3.9619E-08	1.0000E 00