

NUREG/CR-6547
SAND97-2776

DOSFAC2 User's Guide

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Prepared for
U.S. Nuclear Regulatory Commission

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Manuscript Completed: December 1997
Date Published: December 1997

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Prepared for
Division of Systems Technology
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
NRC Job Code W6231



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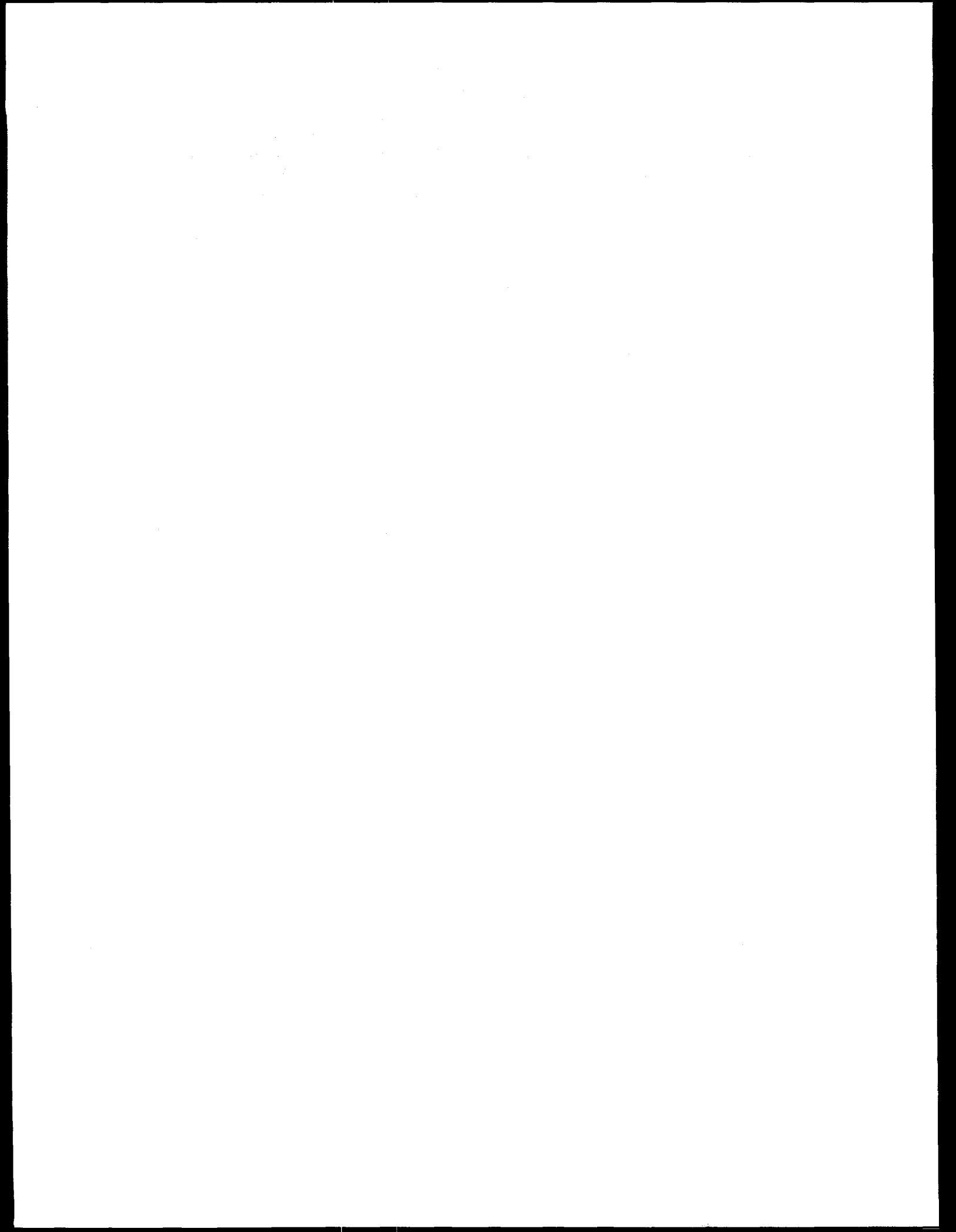
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ABSTRACT

This document describes the DOSFAC2 code, which is used for generating dose-to-source conversion factors for the MACCS2 code. DOSFAC2 is a revised and updated version of the DOSFAC code that was distributed with version 1.5.11 of the MACCS code. Included are (1) an overview and background of DOSFAC2, (2) a summary of two new functional capabilities, and (3) a user's guide.

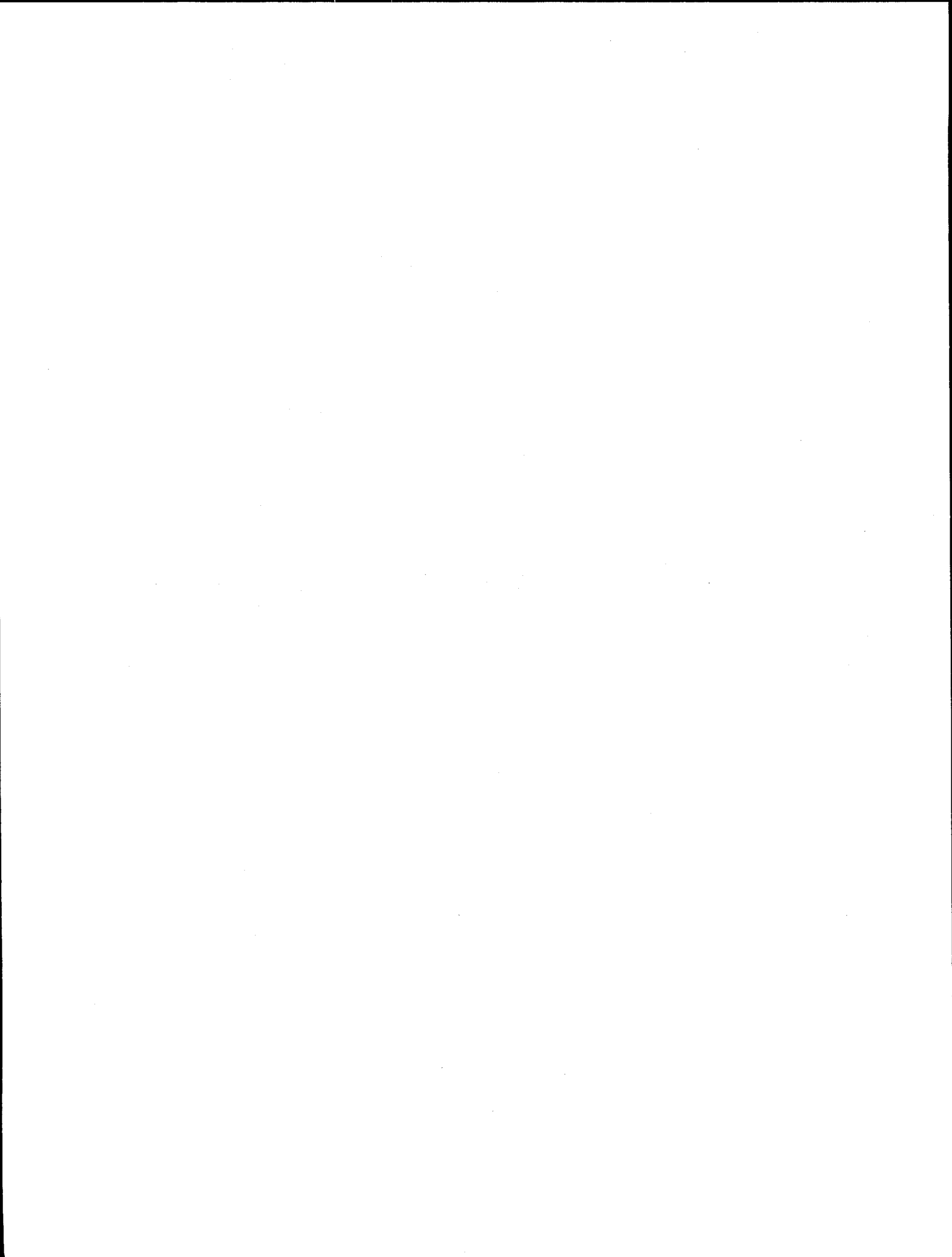


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ACKNOWLEDGMENTS

The authors would like to acknowledge G. Runkle and R. Ostmeyer of Sandia National Laboratories and Jay Johnson of GRAM, Inc., who originally developed DOSFAC. We also appreciate the help of V. Banjac, who contributed to the development of DOSFAC2. In addition, this document has benefited greatly from a review by Keith Eckerman of Oak Ridge National Laboratory.

1 INTRODUCTION

The DOSFAC code was developed by Sandia National Laboratories (SNL) as a stand-alone pre-preprocessor that generates a file of dose conversion factors (DCFs) for the MELCOR Accident Consequence Code System (MACCS) (Chanin et al., 1990; Jow et al., 1990). MACCS is a publicly available computer program developed by SNL under the sponsorship of the U.S. Nuclear Regulatory Commission (NRC) and is used to estimate the probabilistic consequences of hypothetical nuclear reactor accidents involving the release of radioactive materials to the atmosphere. MACCS2 (Chanin and Young, 1997) is an expanded version of MACCS developed under U.S. NRC and U.S. Department of Energy (DOE) sponsorship. MACCS2 provides a number of enhancements over MACCS, including expanded capabilities for the analysis of nonreactor nuclear facilities. The DCF input files generated by DOSFAC2 can be used by both MACCS and MACCS2.

DOSFAC generates a MACCS/MACCS2 input file that contains the DCFs required for MACCS/ MACCS2 dose calculations. DOSFAC was used for the NUREG-1150 (USNRC, 1990) assessment of commercial reactor risks and was publicly distributed with MACCS version 1.5.11 beginning in 1990. With the maintenance release of MACCS 1.5.11.1 (Chanin et al., 1993) in 1993, the DOSFAC code was omitted from the code distribution package. The reasons for that omission were: (1) the only external document (Runkle and Ostmeyer, 1985) describing the code provided no information on code use or its internal mechanics and that document has not been updated since its publication to reflect minor changes in the code and its output; and (2) because the DOSFAC code is not controlled with an input file, user control of the code's operation requires that the program source code be modified for each application.

DOSFAC2 is an enhanced version of DOSFAC. The new code features provided in DOSFAC2 include the options to (1) generate DCFs for the

ICRP 60 effective dose (ICRP, 1991), and (2) input code parameter values through a user input file.

DOSFAC and DOSFAC2 access DCF databases developed at the Oak Ridge National Laboratory (ORNL); these are listed and described in Table 1.1.

MACCS/ MACCS2 and DOSFAC2 are written in FORTRAN 77.

1.1 Background

The information discussed in this section, except where noted, applies to both DOSFAC and DOSFAC2. A sample DOSFAC2-generated DCF file is provided in Appendix A.

The DCFs generated by DOSFAC represent the dose to an individual that would result from exposure to a unit concentration of a single radionuclide from four pathways taken separately: cloudshine, groundshine, inhalation, and ingestion. The cloudshine DCFs represent the dose (in sieverts, Sv) that a particular organ of an individual would receive if exposed to a time-integrated unit air concentration in SI units (i.e., 1 becquerel-second per cubic meter, Bq-s/m³) of a single radionuclide.

DOSFAC generates three DCFs for groundshine, all referenced to an initial unit ground concentration (i.e., 1 becquerel per square meter, Bq/m²):

1. the dose rate (sieverts per second, Sv/s),
2. the time-integrated dose for an 8-hour exposure (sieverts), and
3. the time-integrated dose for a 1-week exposure (sieverts).

The time integration of groundshine dose accounts for short-lived daughter products that are assumed to be in secular equilibrium with their parent. These daughter products are listed

in Table 1.2 and are taken from research performed by Alpert et al. (1987).

The time-integrated dose for an 8-hour exposure (sieverts), and a 1-week exposure are required for MACCS calculations but are not used or processed by MACCS2. Their inclusion in MACCS2 DCF files does not affect MACCS2 calculations.

The DCFs for inhalation generated by DOSFAC are provided in pairs. The first value of the pair is used in MACCS to calculate acute health effects. The second value of the pair is the conventional 50-year committed dose from a unit intake. The ingestion DCF for a unit intake represents a 50-year committed dose. Both inhalation and ingestion DCFs are in units of sieverts per becquerel of intake.

DOSFAC generates DCFs for the 60 radionuclides considered in the sample problems distributed with MACCS version 1.5.11.1. The radionuclides included are those considered significant in light water reactor (LWR) accident consequence analyses (Alpert et al., 1987). The list of 60 radionuclides is presented in Table 1.3.

The MACCS DCF input file generated by DOSFAC (DOSDATA.INP) and distributed with MACCS version 1.5.11.1 provides DCFs for 18 target organs in addition to the effective dose equivalent (EDE) established by the International Commission on Radiological Protection (ICRP) in Publication 26 (ICRP, 1977). The organs processed by DOSFAC and DOSFAC2 are listed in Table 1.4. DOSFAC2 also provides DCFs for the effective dose measure defined in ICRP 60 and discussed in Section 2.1 of this document (ICRP, 1991).

Table 1.1. DCF Databases Utilized by DOSFAC and DOSFAC2

Data File Name and Distribution Date	Accessed by	Data Provided by File
DOSD87 1988	DOSFAC DOSFAC2	Internal dose factors for 21 organs, including effective dose equivalent versus commitment time period, clearance class, and particle size for 60 radionuclides. Data file provided by K.F. Eckerman (Oak Ridge National Laboratory, ORNL).
EXTEDE.DAT 1988	DOSFAC	External effective dose equivalent factors for air immersion, ground-surface exposure, and water immersion. Daughter radionuclides with branching fractions are included. Data file provided by K.F. Eckerman (ORNL).
EXTDFP.INP 1981	DOSFAC	External photon dose conversion factors for 24 organs for air immersion, ground-surface, and water immersion. Provided by D.C. Kocher (ORNL).
DOE/EH-EH70.DAT 1988	DOSFAC2	External photon dose conversion factors from DOE/EH-0070 (DOE, 1988) for 24 organs (including EDE) for air immersion, ground-surface, and water immersion. Provided by D.C. Kocher and K.F. Eckerman (ORNL).
INDEXR.DAT 1992	DOSFAC2	ICRP 38 decay-chain file. This file is the same decay chain database utilized by MACCS2. Provided by K.F. Eckerman (ORNL).

Table 1.2. Short-lived Daughters Included in the External DCFs of the Parent

Parent	Daughter	Daughter Half-life	Branch Fraction
Kr-88	Rb-88	17.8 m	1.0
Sr-91	Y-91m	49.71 m	0.578
Zr-97	Nb-97m	60s	0.947
Zr-97	Nb-97	72.1 m	0.053
Ru-103	Rh-103m	56.12 m	0.997
Ru-105	Rh-105m	38 s	0.28
Ru-106	Rh-106	29.9 s	1.0
Te-131m	Te-131	25.0m	0.222
I-135	Xe-135m	15.29m	0.154
Cs-137	Ba-137m	2.552 m	0.946
Ce-144	Pr-144m	7.2m	0.0178
Ce-144	Pr-144	17.28m	0.9822

Table 1.3. The 60 Nuclides Used for Offsite Consequence Assessment in MACCS. DOSFAC and DOSFAC2 will produce DCFs only for radionuclides included in this list

Element	Nuclide
Cobalt	58, 60
Krypton	85, 85m, 87, 88
Rubidium	86
Strontium	89, 90, 91, 92
Yttrium	90, 91, 92, 93
Zirconium	95, 97
Niobium	95
Molybdenum	99
Technetium	99m
Ruthenium	103, 105, 106
Rhodium	105
Antimony	127, 129
Tellurium	127, 127m, 129, 129m, 131m, 132
Iodine	131, 132, 133, 134, 135
Xenon	133, 135
Cesium	134, 136, 137
Barium	139, 140
Lanthanum	140, 141, 142
Cerium	141, 143, 144
Praseodymium	143
Neodymium	147
Neptunium	239
Plutonium	238, 239, 240, 241
Americium	241
Curium	242, 244

Table 1.4. Organs for Which DCFs Are Generated by DOSFAC and DOSFAC2

DOSFAC2 "Organs"	
Stomach	Adrenals
Small intestines	Bladder wall
Lungs	Kidneys
Red marrow	Liver
Thyroid	Pancreas
Lower large intestine	Spleen
Bone surface	Thymus
Breast	Thyroidh ^a
Testes	Effective dose equivalent
Ovaries	Effective dose ^b

^a Thyroidh was added in response to findings discussed in the NRC-sponsored health effects report, NUREG/CR-4214 (Evans et al., 1985). This report stated that brief exposure to external low-LET radiation is approximately five times as effective as inhaled or ingested iodine-131 for the induction of hypothyroidism. The thyroidh external pathway DCFs generated by DOSFAC2 are the unmodified thyroid DCFs obtained from DOE/EH-0070 (DOE, 1988). Thyroidh DCFs for inhalation and ingestion are modified thyroid DCFs for these pathways that are reduced for iodine-131 to account for the reduced effectiveness of ingested or inhaled iodine-131.

^b Not processed by DOSFAC.

2 NEW FUNCTIONAL CAPABILITIES

The new functional capabilities provided by DOSFAC2 are reviewed in this section. The format of the MACCS2 DCF input file created by DOSFAC2 is identical to the format of the DOSDATA.INP file created by DOSFAC. The user may choose to exercise the code in a default mode that implements the input parameter values previously built into DOSFAC.

2.1 Calculation of ICRP 60 Effective Dose

The effective dose equivalent (EDE) is a whole-body equivalent dose concept based on the summation of weighted organ doses. The EDE was first defined in Publication 26 (ICRP, 1977) of the International Commission on Radiological Protection. ICRP Publication 60 (ICRP, 1991), hereafter referred to as ICRP 60, introduced a new name for the weighted equivalent dose and a revised set of tissue weighting factors to be used in calculating the weighted equivalent dose. The ICRP 26 EDE term was replaced in ICRP 60 with the term "effective dose" (E).

E is given by the expression:

$$E = \sum_T w_T \cdot H_T$$

where H_T is the equivalent dose in tissue or organ T .

The ICRP 26 and ICRP 60 tissue weighting factors (w_T) are listed in Table 2.1.

ICRP 60 did not recommend that any back-corrections be performed to replace EDE values with E values, and it stipulated that it was appropriate to add values of E and EDE without any adjustments.

The ORNL files processed by DOSFAC2 include DCFs for the ICRP 26 EDE. The DCF files generated by DOSFAC included EDE DCFs. DCFs for the ICRP 60 E are not

included in the ORNL data files. DOSFAC2 calculates E DCFs using the individual organ DCFs provided in the ORNL files and the ICRP 60 tissue weighting factors.

The ORNL files processed by DOSFAC2 provide DCFs for nine of the twelve ICRP 60 E weighted organs. DOSFAC2 applies the DCFs for these organs in the ICRP 60 E calculation without modification. A summary of the procedures used to develop DCFs for the organs not explicitly present in the ORNL data files (i.e., colon, gonads, and esophagus) and the remainder of the organs is presented in the following subsections.

2.1.1 Colon

The term "colon" refers to the large intestine. The ORNL data files processed by DOSFAC2 include individual DCFs for the two principal segments of the colon: the upper large intestine (ULI) and the lower large intestine (LLI). ICRP Publication 67 (ICRP, 1993) defines the equivalent dose to the colon as:

$$H_{\text{colon}} = 0.57 H_{\text{ULI}} + 0.43 H_{\text{LLI}}$$

where H_{ULI} and H_{LLI} are the equivalent doses in the walls of the ULI and LLI respectively.

The colon DCF is calculated in DOSFAC2 as:

$$\text{DCF}_{\text{colon}} = 0.57 \text{DCF}_{\text{ULI}} + 0.43 \text{DCF}_{\text{LLI}}$$

2.1.2 Gonads

The generic term "gonads" refers to the constituent organs of the human reproductive system, most notably the testes (male) and ovaries (female). DCFs for the testes and ovaries are present in the ORNL files. A 50/50 population distribution is assumed and the gonadal DCF is calculated as the average of DCFs for the testes and ovaries.

Table 2.1. Comparison of ICRP 26 and ICRP 60 Organs and w_T values

ICRP-26		ICRP-60	
Organ or Tissue	w_T	Organ or Tissue	w_T
Gonads	0.25	Gonads	0.20
Red marrow	0.12	Red marrow	0.12
		Colon	0.12
Lung	0.12	Lung	0.12
		Stomach	0.12
		Bladder	0.05
Breast	0.15	Breast	0.05
		Liver	0.05
		Esophagus	0.05
Thyroid	0.03	Thyroid	0.05
		Skin ^a	0.01
Bone surfaces	0.03	Bone surfaces	0.01
Remainder	0.30	Remainder	0.05

^a The skin DCFs provided in the ORNL DCF files were not accessed in previous versions of DOSFAC. MACCS and MACCS2 utilize skin DCFs which are generated by a skin-dose model included in the code. The model incorporated in MACCS and MACCS2 calculates skin DCFs based on several simplifying assumptions (Abrahamson et al., 1989). Those DCFs are oriented toward the calculation of deterministic health effects such as skin erythema and transepidermal injury. An important assumption made for those calculations is an 8-hour residence time of material on the skin, known as the "time delay to shower."

2.1.3 Esophagus

The esophagus is a long narrow tube that transports ingested matter from the pharynx to the stomach. DCFs for the esophagus are not available in the ORNL data files processed by DOSFAC2, and the ICRP Publication 30 (ICRP, 1979) dosimetric data base contains no information for the esophagus. ICRP Publication 61 (ICRP, 1990) substitutes the dose to the thymus for the dose to the esophagus. Consistent with ICRP 61, DOSFAC2 substitutes the thymus DCFs for the esophagus DCFs in the calculation of effective dose.

2.1.4 Remainder

The "remainder" component of ICRP 60 E is defined as consisting of the following organs: adrenals, brain, upper large intestine, small intestine, kidney, muscle, pancreas, spleen, thymus, and uterus. The only organ omitted from the ORNL DCF data files is muscle. A surrogate organ was not defined for muscle. This departure from the ICRP 60 formulation is

conservative and does not significantly affect the numerical value of the E DCF generated by DOSFAC2.

ICRP 67 calculates the dose to the colon as the mass average of the dose to the upper and lower large intestine and does not include the upper large intestine in calculations of the remaining organs. Consistent with ICRP 67, DOSFAC2 does not include the upper large intestine DCF in the remainder calculations.

ICRP Publication 61 computes the equivalent dose to the remainder organs as:

$$\frac{\sum_{T=k}^{T=l} m_T H_T}{\sum_{T=k}^{T=l} m_T}$$

where m_T is the mass of the remainder tissues, T_k to T_l .

Consistent with ICRP 61, the DCF for the remainder tissues is calculated in DOSFAC2 as:

$$\frac{\sum_{T=k}^{T=l} m_T DCF_T}{\sum_{T=k}^{T=l} m_T}$$

2.2 Provisions for User-Specified Input Data

DOSFAC2 allows the user to define values (via a user input file) for a number of parameters for which values were built into DOSFAC. The parameter values for which DOSFAC2 accepts user input values are (1) the values of relative biological effectiveness (RBE) associated with high linear energy transfer (LET) radiations, (2) the list of organs for which acute DCFs are to be calculated, (3) the size of inhaled particles, (4) the acute dose reduction factors, and (5) the inhalation clearance class for each radionuclide.

Other parameters used by DOSFAC are not subject to modification by the user in the new version of the code. Examples of such parameters are the definitions of (1) the list of 60 radionuclides, (2) the list of organs processed by DOSFAC2, and (3) the 18 dose commitment periods used for inhalation and ingestion exposures. The ORNL internal DCF database accessed by DOSFAC2, DOSD87, contains data for only 18 dose commitment periods and 60 radionuclides.

2.2.1 Relative Biological Effectiveness

Two types of radiation are typically considered in dose calculations: low-linear energy transfer radiation resulting from beta and gamma particles, and high-LET radiation resulting from alpha particles. Research indicates that on a per-energy basis, the dose from high-LET radiation produces significantly more damage than the same amount of energy absorbed from low-LET radiation. Research also indicates that some organs are more sensitive to radiation than others.

ICRP recommendations prior to ICRP 60 specified that the dose equivalent should be calculated by multiplying the absorbed dose by a quality factor (Q). Q represents a measure of the ability of a particular type of radiation to cause damage. The Q value is determined only by the type of radiation absorbed. ICRP 26 recommended Q values of 1 and 20 for low-LET and high-LET radiation, respectively. DOSFAC assigned Q values of 10 and 20 for acute and latent effects, respectively, for doses resulting from alpha particles.

ICRP60 replaces Q with a radiation weighting factor, w_R , in the equivalent dose calculation. ICRP 60 specifies (1) a w_R value of one for all low-LET radiations, including x and gamma radiations of all energies and (2) that w_R values for all other types of radiation be based on values of relative biological effectiveness. ICRP 60 provides the following definition of RBE:

The relative biological effectiveness (RBE) of one radiation compared with another is the inverse ratio of the absorbed doses producing the same degree of a defined biological endpoint.

RBE values are therefore a function of the type of radiation absorbed and the specific organ of concern. In addition, ICRP 60 states that for w_R values greater than 1, RBE values will be greater for stochastic than for acute health effects.

The RBE is similar to the Q in that it represents the relative damage caused by high-LET radiation in comparison to the damage caused by low-LET radiation. However, in contrast to the Q, which is given a single value applicable to all tissues absorbing a given type of radiation, each tissue of the body can be characterized by a unique value of RBE. In addition, the Q is considered to be a function of LET in water. The RBE is defined with biological data obtained from laboratory experiments or epidemiological studies on living organisms.

Until 1993, the NUREG/CR-4214 series of radiation health effects reports (Abrahamson et al., 1989, 1991; Evans et al., 1985; Evans, 1990)

were focused exclusively on low-LET radiation and provided no information on the calculation of health effect risks when radiation doses are composed of both low-LET and high-LET radiation. An addendum report, subsequently referred to as LMF-136 (Abrahamson et al., 1993), provided information on appropriate RBE values and health effect models for alpha radiation for both latent and acute health effects. LMF-136 provided a central estimate of 7 for the high-LET RBE value to be used in calculating deterministic health effects to the lung. A central estimate of 20 was recommended for the high-LET RBE value to be used when calculating the stochastic health effects of lung, liver, and bone cancer, and leukemia.

DOSFAC2 allows the user to input high-LET RBE values for acute and latent health effects for individual organs.

2.2.2 Organs Included in Acute Health Effects Calculations

DOSFAC2 generates DCFs for 20 organs. The organ list is built into DOSFAC2 and cannot be modified. However, DOSFAC2 allows the user to specify which organs will be used for acute dose calculations.*

In this discussion, acute organs are defined as those organs for which acute doses are calculated. Three organs are not available for user definition as acute organs. EDE (specified as EDEWBODY in the DOSFAC2 output file) and E (specified as ICRP60ED in the DOSFAC2 output file) are by definition stochastic parameters and DOSFAC2 does not allow their definition as acute organs. THYROIDH is also not available for inclusion in the acute organ list. DOSFAC2 will not process input files that specify EDEWBODY, ICRP60ED, or THYROIDH. RBE values for these organs are built into DOSFAC2. The hardwired RBE

values for EDEWBODY, ICRP60ED, and THYROIDH are 1 and 20, respectively, for all organs for low-LET and high-LET latent health effect dose calculations. An RBE value of 10 is used for the THYROIDH acute high-LET dose calculations.

The THYROIDH DCFs are modified THYROID DCFs that have been adjusted to represent the induction of the acute health effect, hypothyroidism, as described in NUREG/CR-4214, Rev. 2, Part I (Evans et al., 1993).

2.2.3 Particle Size

DOSFAC incorporated a hardwired particle size definition of 1 micron activity median aerodynamic diameter (AMAD) because that value is widely used in assessing the consequences of reactor accidents. In DOSFAC2, the user may specify an alternative AMAD if it is more appropriate for a particular application. The AMAD value affects only the inhalation DCFs. The DOSFAC and DOSFAC2 inhalation DCFs are based on the ICRP 30 model of particle-size-dependent deposition and retention in three regions of the breathing system: nasal passage and pharynx (N-P), trachea and bronchial passage (T-B), and pulmonary (P). The user may specify a value of AMAD between 0.2 and 10.0 microns.

2.2.4 Acute Dose Reduction Factors

Acute dose reduction factors are applied only to the dose received from inhaled and internally deposited radionuclides. Acute dose reduction factors adjust the effectiveness of internal doses as a function of the time period over which the dose is received. For example, the effectiveness of a specific dose level to induce an early health effect will be greater if the dose is received over 1 day compared with the same dose received over 1 week.†

* Acute doses are used in the calculation of acute health effects. The calculation of acute doses differs from the calculation of long-term doses in that for doses received from inhaled particles, the dose commitment period is typically 1 year or less. The long-term dose calculated for latent health effects is typically based on a dose commitment period of 50 years.

† NUREG/CR-4214 (Evans et al., 1985) discusses the reduced effectiveness of a dose as the time period over which the dose is received is increased (described as "dose protraction") and provides LD₅₀ values that increase with exposure time.

DOSFAC2 allows the user to specify acute dose reduction factors through the DOSFAC2 user input file. The sample user input file contained in Appendix B of this document and distributed with DOSFAC2 incorporates the same set of acute dose reduction factors that were built into DOSFAC. These factors are based on the acute health effects models used in the NUREG-1150 consequence calculations as described by Evans et al. (1985).

Reports in the NUREG/CR-4214 series (Abrahamson et al., 1989; Evans, 1990) describe acute health effects models in which the LD_{50}^* used for each portion of a protracted exposure is a function of the dose rate. Those dose-rate dependent health effects models have not been implemented in MACCS.

2.2.5 Clearance Class

Three clearance classes (day, week, and year) are used to represent the retention of the inhaled

aerosol in the lung. This approach is widely used to distinguish between different chemical forms in which an element may be found (ICRP, 1990). For example, plutonium in oxide form is assigned a clearance class of Y (indicating year), while the more soluble plutonium nitrate is assigned a clearance class of W (for week).

The clearance classes implemented in DOSFAC were selected by Runkle and Ostmeier (1985) for applicability to severe accidents at commercial light-water reactors. It is possible that for some applications (e.g., material licensees) the clearance class assumptions previously developed might not be applicable. Clearance class values may be specified for each radionuclide in the DOSFAC2 user input file. The sample DOSFAC2 user input file listed in Appendix B of this document contains the same clearance class values that are implemented in DOSFAC.

* The LD_{50} is the dose that is estimated to be a lethal dose for 50 percent of the exposed population.

3 USER'S GUIDE

This chapter reviews the format of the DOSFAC2 user input file and the procedure for executing the program. The input parameters available to the code user are described in Section 3.1, and a sample user input file is provided in Appendix B. The operation of the program on an IBM-compatible PC is described in Section 3.2.

3.1 User-Specified Input Variables for DOSFAC

The parameters available to the code user for modification through the user input file are described in Sections 3.1.1 through 3.1.5. If the software cannot obtain a valid set of input data (i.e., values of the proper type and within the specified allowable range), an error message will be issued and further execution will be terminated.

3.1.1 Acute Organ Subset and RBEs for Lifetime Dose

The following two variables define a logical flag indicating (1) whether acute dose reduction factors are defined for each specified organ and (2) the RBEs associated with the 0-50 year "lifetime" dose from high-LET radiation. The list of organs for which these values are to be specified is fixed in the DOSFAC2 code. Any modification of this list from that in the sample user input file will result in an error message, and further execution will be terminated.

Variable Name: Acute_Dose

Variable Type: Logical, Array

Purpose: For each organ, the user supplies a logical flag which defines whether the organ is included in acute health effects calculations. A ".TRUE." input value indicates the organ is to be included in acute health effects calculations. Acute dose RBE values and acute dose reduction factors must be input for organs for which a ".TRUE." value is assigned to this variable.

Variable Name: RBE_Life_HighLET

Variable Type: Real, Array

Allowed Range: $0.0 \leq \text{value} \leq 100.0$

Purpose: RBE value to be used for the high-LET component of the 0-50 year lifetime dose commitment.

Example usage of acute organ subset and RBEs for lifetime dose:

*HARD-WIRED *ORGAN LIST *	Acute_Dose	RBE_Life_HighLET
STOMACH__01	.TRUE.	20.
SMALL_IN_02	.TRUE.	20.
LUNGS__03	.TRUE.	20.
RED_MARR_04	.TRUE.	20.
THYROID__05	.FALSE.	20.
LOWER_LI_06	.TRUE.	20.
BONE_SUR_07	.FALSE.	20.
BREAST__08	.FALSE.	20.
TESTES__09	.FALSE.	20.
OVARIES__10	.FALSE.	20.
ADRENALS_11	.FALSE.	20.
BLAD_WAL_12	.FALSE.	20.
KIDNEYS__13	.FALSE.	20.
LIVER__14	.FALSE.	20.
PANCREAS_15	.FALSE.	20.
SPLEEN__16	.FALSE.	20.
THYMUS__17	.FALSE.	20.

3.1.2 RBE Specification for the Acute Organs

Variable Name: Acute_Name

Variable Type: Character, Array

Allowed Range: $2 \leq \text{length} \leq 8$

Purpose: Identification of organs for which acute DCFs are to be calculated.

The allowable set of Acute_Name organs are as follows:

STOMACH	SMALL IN
LUNGS	RED MARR
THYROID	LOWER_LI
BONE SUR	BREAST
TESTES	OVARIES
ADRENALS	BLAD WAL
KIDNEYS	LIVER
PANCREAS	SPLEEN
THYMUS	

Variable Name: RBE_Acute_HighLET

Variable Type: Real, Array

Allowed Range: $0.0 \leq \text{value} \leq 100.0$

Purpose: For each value of Acute_Name, the user supplies the RBE to be used for the high-LET component of the acute dose used for the deterministic health effects models in MACCS2.

Example usage of RBE specification for the acute organs:

```
*
*
*           Acute_Name    RBE_Acute_HighLET
*
ACUTERBE001 'STOMACH'      10.
ACUTERBE002 'SMALL IN'    10.
ACUTERBE003 'LUNGS'       10.
ACUTERBE004 'RED MARR'    10.
ACUTERBE005 'LOWER LI'    10.
```

3.1.3 ICRP 30 Lung Model Particle Size

Variable Name: Partcl_AMAD

Variable Type: Real, Scalar

Allowed Range: 0.2 <= value <= 10.0

Purpose: Defines the ICRP 30 model particle size (microns).

Example usage of ICRP 30 lung model particle size:

```
*
Partcl_AMAD 1.0
```

3.1.4 Dose Commitment Weight Fraction for the Acute Organs

Variable Name: Acute_Name

Variable Type: Character, Array

Allowed Range: 2 <= length <= 8

Purpose: Name of acute organ for which the weight fraction is to be defined. The list of organs specified must be identical to the Acute_Name list provided in the RBE specification for the Acute Organs block.

Variable Name: WTFRAC

Variable Type: Real, Array

Allowed Range: 0.0 <= value <= 1.0

Purpose: For each value of Acute_Name, the user supplies the value of weighting fractions to be used for each of the 18 inhalation commitment periods spanning the period from intake to 50

years. The 18 commitment periods are: 0-1 day, 1-2 days, 2-7 days, 7-10 days, 10-14 days, 14-18 days, 18-21 days, 21-28 days, 28-30 days, 30-50 days, 50-60 days, 60-200 days, 200-365 days, 1-10 years, 10-20 years, 20-30 years, 30-40 years, and 40-50 years.

Example usage of dose commitment weight fraction for the acute organs:

```
*
*           Acute_Name    WTFRAC values for each of
the 18 commitment periods extending to 50 years
*
WTFRAC00001 'STOMACH'    1.0 0.37 0.37 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
WTFRAC00002 'SMALL IN'  1.0 0.43 0.43 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
WTFRAC00003 'LUNGS'     1.0 .0625 .0625 .0625 .0625
.027 .027 .027 .027 .027 .027 .027 .01087 0.0 0.0
0.0 0.0 0.0
WTFRAC00004 'RED MARR'  1.0 0.5 0.5 0.5 0.5
.25 .25 .25 .25 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
WTFRAC00005 'LOWER LI'  1.0 0.43 0.43 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0
```

3.1.5 Clearance Class Definition for the 60 MACCS Nuclides

Variable Name: NUCNAM

Variable Type: Character, Array

Allowed Range: 2 <= length <= 8

Purpose: Reiterates the list of 60 radionuclides considered in MACCS. These must be provided in exactly the same order as used in the example usage below. If not, an error will be diagnosed and program execution will be terminated.

Variable Name: INHCLS

Variable Type: Integer, Array

Allowed Range: 1 <= value <= 4

Purpose: For each of the 60 radionuclides considered in MACCS, this assigns the inhalation clearance class associated with that radionuclide. The clearance class is specified with a numeric code as follows: 1 = day (D), 2 = week (W), 3 = year (Y), 4 = noble gas.

Example usage of clearance class definition for the 60 MACCS radionuclides:

```
*
* Define Inhalation Clearance Class
*
```

	NUCNAM	INHCLS
DFINHCLS001	CO-58	3
DFINHCLS002	CO-60	3
DFINHCLS003	KR-85	4
DFINHCLS004	KR-85M	4
DFINHCLS005	KR-87	4
DFINHCLS006	KR-88	4
DFINHCLS007	RB-86	1
DFINHCLS008	SR-89	1
DFINHCLS009	SR-90	1
DFINHCLS010	SR-91	1
DFINHCLS011	SR-92	1
DFINHCLS012	Y-90	3
DFINHCLS013	Y-91	3
DFINHCLS014	Y-92	3
DFINHCLS015	Y-93	3
DFINHCLS016	ZR-95	2
DFINHCLS017	ZR-97	2
DFINHCLS018	NB-95	2
DFINHCLS019	MO-99	2
DFINHCLS020	TC-99M	2
DFINHCLS021	RU-103	3
DFINHCLS022	RU-105	3
DFINHCLS023	RU-106	3
DFINHCLS024	RH-105	3
DFINHCLS025	SB-127	2
DFINHCLS026	SB-129	2
DFINHCLS027	TE-127	2
DFINHCLS028	TE-127M	2
DFINHCLS029	TE-129	2
DFINHCLS030	TE-129M	2
DFINHCLS031	TE-131M	2
DFINHCLS032	TE-132	2
DFINHCLS033	I-131	1
DFINHCLS034	I-132	1
DFINHCLS035	I-133	1
DFINHCLS036	I-134	1
DFINHCLS037	I-135	1
DFINHCLS038	XE-133	4
DFINHCLS039	XE-135	4
DFINHCLS040	CS-134	1
DFINHCLS041	CS-136	1
DFINHCLS042	CS-137	1
DFINHCLS043	BA-139	1
DFINHCLS044	BA-140	1
DFINHCLS045	LA-140	2
DFINHCLS046	LA-141	2
DFINHCLS047	LA-142	2
DFINHCLS048	CE-141	3
DFINHCLS049	CE-143	3
DFINHCLS050	CE-144	3
DFINHCLS051	PR-143	3
DFINHCLS052	ND-147	3
DFINHCLS053	NP-239	2
DFINHCLS054	PU-238	3
DFINHCLS055	PU-239	3
DFINHCLS056	PU-240	3
DFINHCLS057	PU-241	3
DFINHCLS058	AM-241	2
DFINHCLS059	CM-242	2
DFINHCLS060	CM-244	2

3.2 Software Operation and Sample Input Files

A batch file named DOSFACPC.BAT is provided to control the execution of DOSFAC2 when installed on a PC. DOSFAC2 incorporates a complete set of default input parameters matching the built-in parameter values of the predecessor code DOSFAC. In order to execute DOSFAC2 using the built-in defaults, and to generate a DOSDATA.INP file similar to the one distributed with MACCS 1.5.11.1, enter DOSFACPC at the DOS prompt. The List Output file DOSDATA.LST will be created, summarizing the assumptions used for the calculations. A sample .LST outfile is provided in Appendix A.

DOSFAC2 user input files are identified by a .SEL extension to the filename. Three test cases are provided to illustrate how the functionality of DOSFAC2 can be controlled by suitable modification of the .SEL files.

The first, DEFAULT.SEL, incorporates the same parameter values that are built into DOSFAC2 as defaults. Alternative assumptions can be used by editing the file and rerunning DOSFAC2 with a newly created .SEL file.

RSSCLEAR.SEL is a Select file that incorporates the clearance classes used in the Reactor Safety Study (WASH-1400; USNRC, 1975). In addition, 10MICRON.SEL is a variant on the default values in that it utilizes a 10-micron particle size instead of the nominal 1-micron particle size of DOSDATA.INP.

When DOSFAC2 is exercised with a user-specified .SEL file, the code maintains a one-to-one association between the Select file, the List Output file, and the newly created DCF file by using the same filename for all three. The three files are distinguished by their three-letter extension. Thus, the Select file will always have an .SEL extension, the DCF file will always have an .INP extension, and the List Output file always has an .LST extension.

The three test cases can be exercised by entering the following commands at the DOS prompt:

```
DOSFACPC DEFAULT  
DOSFACPC RSSCLEAR  
DOSFACPC 10MICRON
```

and MACCS/MACCS2 DCF files will be written to DEFAULT.INP, RSSCLEAR.INP, and 10MICRON.INP. The List Output of the three runs will be available for inspection in the files DEFAULT.LST, RSSCLEAR.LST, and 10MICRON.LST.

For the convenience of the user, all four test cases can be exercised by executing the batch file RUNEM.BAT at the DOS prompt. On a Pentium 133 MHz PC, the four test cases require less than 2 minutes to complete.

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Appendix A: Sample Output Files Distributed with DOSFAC

A sample DOSFAC2 DEFAULT.INP file is reproduced in its entirety as Section A.1. The output file containing user-specified data is reproduced in Section A.2.

The units for the DCFs provided in the DEFAULT.INP file are listed below:

Dose Conversion Factor	Units
Cloudshine	Sv/sec per Bq/m ³
Groundshine 8 hr	Sv per Bq/m ²
Groundshine 7 day	Sv per Bq/m ²
Groundshine Rate	Sv/sec per Bq/m ²
Inhaled Acute	Sv/Bq
Inhaled Chronic	Sv/Bq
Ingestion	Sv/Bq

A.1 Listing of DOSFAC Output File DEFAULT.INP

DOSFAC2 VERSION 1.11, DOSFAC2 LAST MODIFIED 12/96.

RUN DATE: 03/27/97 , 10:11:28

20 ORGANS DEFINED IN THIS FILE:

STOMACH
SMALL IN
LUNGS
RED MARR
THYROID
LOWER LI
BONE SUR
BREAST
TESTES
OVARIES
EDEWBODY
THYROIDH
ADRENALS
BLAD WAL
KIDNEYS
LIVER
PANCREAS
SPLEEN
THYMUS
ICRP60ED

60 NUCLIDES DEFINED IN THIS FILE:

CO-58 Y
CO-60 Y
KR-85
KR-85M
KR-87
KR-88 Including:Rb-88
RB-86 D
SR-89 D
SR-90 D
SR-91 D Including:Y-91m
SR-92 D
Y-90 Y
Y-91 Y
Y-92 Y
Y-93 Y

ZR-95 W
 ZR-97 W Including:Nb-97m , Including:Nb-97
 NB-95 Y
 MO-99 Y
 TC-99M W
 RU-103 Y Including:Rh-103m
 RU-105 Y
 RU-106 Y Including:Rh-106
 RH-105 Y
 SB-127 W
 SB-129 W
 TE-127 W
 TE-127M W
 TE-129 W
 TE-129M W
 TE-131M W Including:Te-131
 TE-132 W
 I-131 D
 I-132 D
 I-133 D
 I-134 D
 I-135 D Including:Xe-135m
 XE-133
 XE-135
 CS-134 D
 CS-136 D
 CS-137 D Including:Ba-137m
 BA-139 D
 BA-140 D
 LA-140 W
 LA-141 W
 LA-142 W
 CE-141 Y
 CE-143 Y
 CE-144 Y Including:Pr-144m, Including:Pr-144
 PR-143 Y
 ND-147 Y
 NP-239 W
 PU-238 Y
 PU-239 Y
 PU-240 Y
 PU-241 Y
 AM-241 W
 CM-242 W
 CM-244 W

	CLOUDSHINE	GROUND SHINE 8HR	GROUND SHINE 7DAY	GROUND SHINE RATE	INHALED ACUTE	INHALED CHRONIC	INGESTION
CO-58							
STOMACH	3.529E-14	1.980E-11	4.025E-10	6.886E-16	1.558E-10	1.394E-09	3.853E-10
SMALL IN	3.195E-14	1.793E-11	3.645E-10	6.235E-16	3.307E-10	7.495E-10	1.130E-09
LUNGS	3.811E-14	2.140E-11	4.350E-10	7.442E-16	7.599E-10	1.601E-08	8.510E-11
RED MARR	3.880E-14	2.174E-11	4.420E-10	7.562E-16	1.577E-10	9.228E-10	2.601E-10
THYROID	4.796E-14	2.684E-11	5.457E-10	9.335E-16	-1.000E+00	8.704E-10	6.308E-11
LOWER LI	3.460E-14	1.940E-11	3.945E-10	6.749E-16	9.144E-10	1.989E-09	3.962E-09
BONE SUR	4.248E-14	2.386E-11	4.851E-10	8.299E-16	-1.000E+00	6.926E-10	1.252E-10
BREAST	4.582E-14	2.561E-11	5.206E-10	8.907E-16	-1.000E+00	9.367E-10	1.788E-10
TESTES	5.062E-14	2.832E-11	5.757E-10	9.849E-16	-1.000E+00	1.060E-10	1.614E-10
OVARIES	3.460E-14	1.943E-11	3.950E-10	6.757E-16	-1.000E+00	6.166E-10	1.041E-09
EDEWBODY	4.316E-14	2.421E-11	4.921E-10	8.419E-16	-1.000E+00	3.088E-09	8.206E-10
THYROIDH	4.796E-14	2.684E-11	5.457E-10	9.335E-16	6.142E-11	8.704E-10	6.308E-11
ADRENALS	3.725E-14	2.091E-11	4.250E-10	7.271E-16	-1.000E+00	1.601E-09	1.509E-10
BLAD WAL	3.588E-14	2.014E-11	4.095E-10	7.006E-16	-1.000E+00	2.387E-10	3.643E-10
KIDNEYS	3.751E-14	2.103E-11	4.275E-10	7.314E-16	-1.000E+00	7.523E-10	2.094E-10
LIVER	3.571E-14	2.002E-11	4.070E-10	6.963E-16	-1.000E+00	1.637E-09	2.456E-10
PANCREAS	3.075E-14	1.726E-11	3.509E-10	6.004E-16	-1.000E+00	1.675E-09	1.997E-10
SPLEEN	3.469E-14	1.943E-11	3.950E-10	6.757E-16	-1.000E+00	1.458E-09	1.733E-10
THYMUS	3.982E-14	2.233E-11	4.541E-10	7.768E-16	-1.000E+00	2.523E-09	6.674E-11

ICRP60ED	3.929E-14	2.056E-11	4.179E-10	7.658E-16	-1.000E+00	2.822E-09	6.338E-10
CO-60							
STOMACH	9.078E-14	4.587E-11	9.622E-10	1.593E-15	3.840E-10	2.726E-08	1.611E-09
SMALL IN	8.513E-14	4.292E-11	9.001E-10	1.490E-15	8.077E-10	7.046E-09	3.591E-09
LUNGS	9.849E-14	4.982E-11	1.045E-09	1.730E-15	3.511E-09	3.448E-07	8.768E-10
RED MARR	9.935E-14	5.031E-11	1.055E-09	1.747E-15	3.986E-10	1.718E-08	1.311E-09
THYROID	1.233E-13	6.215E-11	1.304E-09	2.158E-15	-1.000E+00	1.615E-08	7.843E-10
LOWER LI	9.078E-14	4.563E-11	9.570E-10	1.584E-15	2.386E-09	7.916E-09	1.113E-08
BONE SUR	1.053E-13	5.327E-11	1.117E-09	1.850E-15	-1.000E+00	1.353E-08	9.415E-10
BREAST	1.165E-13	5.870E-11	1.231E-09	2.038E-15	-1.000E+00	1.843E-08	1.100E-09
TESTES	1.293E-13	6.536E-11	1.371E-09	2.270E-15	-1.000E+00	1.697E-09	1.075E-09
OVARIES	8.907E-14	4.489E-11	9.415E-10	1.559E-15	-1.000E+00	4.753E-09	3.187E-09
EDEWBODY	1.105E-13	5.574E-11	1.169E-09	1.936E-15	-1.000E+00	5.948E-08	2.839E-09
THYROIDH	1.233E-13	6.215E-11	1.304E-09	2.158E-15	1.465E-10	1.615E-08	7.843E-10
ADRENALS	9.421E-14	4.735E-11	9.933E-10	1.644E-15	-1.000E+00	2.990E-08	1.586E-09
BLAD WAL	9.335E-14	4.711E-11	9.881E-10	1.636E-15	-1.000E+00	2.949E-09	1.771E-09
KIDNEYS	9.849E-14	4.957E-11	1.040E-09	1.721E-15	-1.000E+00	1.557E-08	1.355E-09
LIVER	9.335E-14	4.711E-11	9.881E-10	1.636E-15	-1.000E+00	3.352E-08	2.326E-09
PANCREAS	8.068E-14	4.070E-11	8.536E-10	1.413E-15	-1.000E+00	3.179E-08	1.290E-09
SPLEEN	8.993E-14	4.538E-11	9.519E-10	1.576E-15	-1.000E+00	2.701E-08	1.158E-09
THYMUS	1.036E-13	5.229E-11	1.097E-09	1.816E-15	-1.000E+00	5.740E-08	8.999E-10
ICRP60ED	1.014E-13	4.772E-11	1.001E-09	1.776E-15	-1.000E+00	5.567E-08	2.350E-09
KR-85							
STOMACH	7.674E-17	0.000E+00	0.000E+00	0.000E+00	6.757E-14	7.007E-14	0.000E+00
SMALL IN	6.877E-17	0.000E+00	0.000E+00	0.000E+00	6.781E-14	7.007E-14	0.000E+00
LUNGS	8.350E-17	0.000E+00	0.000E+00	0.000E+00	4.671E-13	4.708E-13	0.000E+00
RED MARR	8.539E-17	0.000E+00	0.000E+00	0.000E+00	6.808E-14	7.007E-14	0.000E+00
THYROID	1.036E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
LOWER LI	7.494E-17	0.000E+00	0.000E+00	0.000E+00	6.781E-14	7.007E-14	0.000E+00
BONE SUR	9.763E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
BREAST	1.036E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
TESTES	1.122E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
OVARIES	7.477E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
EDEWBODY	9.592E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.180E-13	0.000E+00
THYROIDH	1.036E-16	0.000E+00	0.000E+00	0.000E+00	6.689E-14	7.007E-14	0.000E+00
ADRENALS	8.239E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.040E-14	0.000E+00
BLAD WAL	7.819E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
KIDNEYS	8.110E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
LIVER	7.776E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
PANCREAS	6.689E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.036E-14	0.000E+00
SPLEEN	7.597E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.007E-14	0.000E+00
THYMUS	8.487E-17	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	7.036E-14	0.000E+00
ICRP60ED	2.199E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.182E-13	0.000E+00
KR-85M							
STOMACH	5.216E-15	0.000E+00	0.000E+00	0.000E+00	6.098E-14	6.101E-14	0.000E+00
SMALL IN	4.573E-15	0.000E+00	0.000E+00	0.000E+00	6.101E-14	6.104E-14	0.000E+00
LUNGS	5.764E-15	0.000E+00	0.000E+00	0.000E+00	4.804E-13	4.804E-13	0.000E+00
RED MARR	5.533E-15	0.000E+00	0.000E+00	0.000E+00	6.369E-14	6.372E-14	0.000E+00
THYROID	7.734E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.532E-14	0.000E+00
LOWER LI	5.113E-15	0.000E+00	0.000E+00	0.000E+00	5.912E-14	5.915E-14	0.000E+00
BONE SUR	8.479E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.103E-14	0.000E+00
BREAST	8.564E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.722E-14	0.000E+00
TESTES	7.948E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.514E-14	0.000E+00
OVARIES	4.642E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.995E-14	0.000E+00
EDEWBODY	6.954E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.110E-13	0.000E+00
THYROIDH	7.734E-15	0.000E+00	0.000E+00	0.000E+00	5.529E-14	5.532E-14	0.000E+00
ADRENALS	5.755E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.210E-14	0.000E+00
BLAD WAL	5.284E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.895E-14	0.000E+00
KIDNEYS	5.396E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.943E-14	0.000E+00
LIVER	5.276E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.070E-14	0.000E+00
PANCREAS	4.445E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.320E-14	0.000E+00
SPLEEN	5.259E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.100E-14	0.000E+00
THYMUS	6.089E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.447E-14	0.000E+00
ICRP60ED	6.079E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.103E-13	0.000E+00
KR-87							
STOMACH	3.160E-14	0.000E+00	0.000E+00	0.000E+00	2.218E-13	2.218E-13	0.000E+00
SMALL IN	2.946E-14	0.000E+00	0.000E+00	0.000E+00	2.210E-13	2.210E-13	0.000E+00

LUNGS	3.383E-14	0.000E+00	0.000E+00	0.000E+00	2.386E-12	2.386E-12	0.000E+00
RED MARR	3.460E-14	0.000E+00	0.000E+00	0.000E+00	2.179E-13	2.179E-13	0.000E+00
THYROID	4.085E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.149E-13	0.000E+00
LOWER LI	3.135E-14	0.000E+00	0.000E+00	0.000E+00	2.250E-13	2.250E-13	0.000E+00
BONE SUR	3.674E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.139E-13	0.000E+00
BREAST	4.102E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.139E-13	0.000E+00
TESTES	4.436E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.140E-13	0.000E+00
OVARIES	2.929E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.220E-13	0.000E+00
EDEWBODY	3.811E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	4.816E-13	0.000E+00
THYROIDH	4.085E-14	0.000E+00	0.000E+00	0.000E+00	2.149E-13	2.149E-13	0.000E+00
ADRENALS	3.195E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.288E-13	0.000E+00
BLAD WAL	3.203E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.180E-13	0.000E+00
KIDNEYS	3.409E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.189E-13	0.000E+00
LIVER	3.212E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.238E-13	0.000E+00
PANCREAS	2.801E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.348E-13	0.000E+00
SPLEEN	3.092E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.208E-13	0.000E+00
THYMUS	3.460E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.317E-13	0.000E+00
ICRP60ED	3.563E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	4.796E-13	0.000E+00
KR-88							
STOMACH	1.062E-13	0.000E+00	0.000E+00	0.000E+00	3.745E-13	3.745E-13	0.000E+00
SMALL IN	1.001E-13	0.000E+00	0.000E+00	0.000E+00	3.780E-13	3.780E-13	0.000E+00
LUNGS	1.139E-13	0.000E+00	0.000E+00	0.000E+00	4.218E-12	4.218E-12	0.000E+00
RED MARR	1.160E-13	0.000E+00	0.000E+00	0.000E+00	3.666E-13	3.666E-13	0.000E+00
THYROID	1.368E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.538E-13	0.000E+00
LOWER LI	1.058E-13	0.000E+00	0.000E+00	0.000E+00	3.971E-13	3.972E-13	0.000E+00
BONE SUR	1.205E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.508E-13	0.000E+00
BREAST	1.351E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.556E-13	0.000E+00
TESTES	1.478E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.512E-13	0.000E+00
OVARIES	9.866E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.890E-13	0.000E+00
EDEWBODY	1.274E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	8.454E-13	0.000E+00
THYROIDH	1.368E-13	0.000E+00	0.000E+00	0.000E+00	3.537E-13	3.538E-13	0.000E+00
ADRENALS	1.057E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	4.045E-13	0.000E+00
BLAD WAL	1.079E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.670E-13	0.000E+00
KIDNEYS	1.150E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.648E-13	0.000E+00
LIVER	1.083E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.852E-13	0.000E+00
PANCREAS	9.438E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	4.365E-13	0.000E+00
SPLEEN	1.040E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.694E-13	0.000E+00
THYMUS	1.165E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	4.148E-13	0.000E+00
ICRP60ED	1.163E-13	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	8.342E-13	0.000E+00
RB-86							
STOMACH	3.477E-15	1.809E-12	3.366E-11	6.320E-17	3.020E-10	1.453E-09	2.912E-09
SMALL IN	3.212E-15	1.669E-12	3.106E-11	5.832E-17	2.042E-10	1.347E-09	2.163E-09
LUNGS	3.751E-15	1.954E-12	3.635E-11	6.826E-17	1.539E-09	3.298E-09	2.137E-09
RED MARR	3.794E-15	1.973E-12	3.672E-11	6.894E-17	8.078E-10	2.362E-09	3.789E-09
THYROID	4.728E-15	2.451E-12	4.561E-11	8.564E-17	-1.000E+00	1.333E-09	2.137E-09
LOWER LI	3.434E-15	1.789E-12	3.330E-11	6.252E-17	2.041E-10	1.349E-09	2.167E-09
BONE SUR	4.060E-15	2.111E-12	3.927E-11	7.374E-17	-1.000E+00	4.260E-09	6.841E-09
BREAST	4.428E-15	2.304E-12	4.287E-11	8.050E-17	-1.000E+00	1.336E-09	2.142E-09
TESTES	4.950E-15	2.574E-12	4.789E-11	8.993E-17	-1.000E+00	1.346E-09	2.160E-09
OVARIES	3.409E-15	1.772E-12	3.298E-11	6.192E-17	-1.000E+00	1.332E-09	2.137E-09
EDEWBODY	4.214E-15	2.194E-12	4.082E-11	7.665E-17	-1.000E+00	1.801E-09	2.545E-09
THYROIDH	4.728E-15	2.451E-12	4.561E-11	8.564E-17	2.497E-10	1.333E-09	2.137E-09
ADRENALS	3.614E-15	1.883E-12	3.503E-11	6.577E-17	-1.000E+00	1.360E-09	2.180E-09
BLAD WAL	3.546E-15	1.846E-12	3.434E-11	6.449E-17	-1.000E+00	1.357E-09	2.180E-09
KIDNEYS	3.725E-15	1.939E-12	3.608E-11	6.774E-17	-1.000E+00	1.353E-09	2.171E-09
LIVER	3.529E-15	1.838E-12	3.421E-11	6.423E-17	-1.000E+00	1.348E-09	2.161E-09
PANCREAS	3.057E-15	1.588E-12	2.956E-11	5.550E-17	-1.000E+00	1.339E-09	2.148E-09
SPLEEN	3.417E-15	1.777E-12	3.307E-11	6.209E-17	-1.000E+00	1.349E-09	2.164E-09
THYMUS	3.974E-15	2.066E-12	3.845E-11	7.220E-17	-1.000E+00	1.331E-09	2.130E-09
ICRP60ED	4.302E-15	4.094E-12	7.618E-11	1.478E-16	-1.000E+00	1.741E-09	2.485E-09
SR-89							
STOMACH	5.036E-18	2.732E-15	5.482E-14	9.506E-20	1.904E-10	5.510E-10	9.321E-10
SMALL IN	4.590E-18	2.510E-15	5.037E-14	8.736E-20	2.759E-10	6.284E-10	1.433E-09
LUNGS	5.430E-18	2.953E-15	5.926E-14	1.028E-19	1.302E-09	2.186E-09	2.584E-10
RED MARR	5.507E-18	3.002E-15	6.025E-14	1.045E-19	9.360E-10	5.651E-09	3.261E-09
THYROID	6.860E-18	3.716E-15	7.457E-14	1.293E-19	-1.000E+00	4.475E-10	2.584E-10
LOWER LI	4.950E-18	2.682E-15	5.383E-14	9.335E-20	1.980E-09	3.586E-09	2.063E-08

BONE SUR	5.944E-18	3.224E-15	6.470E-14	1.122E-19	-1.000E+00	8.355E-09	4.820E-09
BREAST	6.440E-18	3.494E-15	7.013E-14	1.216E-19	-1.000E+00	4.475E-10	2.584E-10
TESTES	7.177E-18	3.913E-15	7.852E-14	1.362E-19	-1.000E+00	4.475E-10	2.584E-10
OVARIES	4.942E-18	2.682E-15	5.383E-14	9.335E-20	-1.000E+00	4.476E-10	2.584E-10
EDEWBODY	6.115E-18	3.322E-15	6.667E-14	1.156E-19	-1.000E+00	1.787E-09	2.503E-09
THYROIDH	6.860E-18	3.716E-15	7.457E-14	1.293E-19	8.878E-11	4.475E-10	2.584E-10
ADRENALS	5.284E-18	2.879E-15	5.778E-14	1.002E-19	-1.000E+00	4.475E-10	2.584E-10
BLAD WAL	5.121E-18	2.781E-15	5.581E-14	9.678E-20	-1.000E+00	4.475E-10	2.584E-10
KIDNEYS	5.370E-18	2.928E-15	5.877E-14	1.019E-19	-1.000E+00	4.475E-10	2.584E-10
LIVER	5.096E-18	2.781E-15	5.581E-14	9.678E-20	-1.000E+00	4.475E-10	2.584E-10
PANCREAS	4.402E-18	2.392E-15	4.800E-14	8.325E-20	-1.000E+00	4.475E-10	2.584E-10
SPLEEN	4.933E-18	2.682E-15	5.383E-14	9.335E-20	-1.000E+00	4.475E-10	2.584E-10
THYMUS	5.730E-18	3.125E-15	6.272E-14	1.088E-19	-1.000E+00	4.475E-10	2.584E-10
ICRP60ED	3.806E-16	1.964E-12	3.942E-11	6.836E-17	-1.000E+00	1.612E-09	2.307E-09
SR-90							
STOMACH	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.219E-10	2.365E-09	1.570E-09
SMALL IN	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.686E-10	2.402E-09	1.802E-09
LUNGS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.993E-10	3.422E-09	1.333E-09
RED MARR	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.725E-09	3.051E-07	1.752E-07
THYROID	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
LOWER LI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.611E-09	5.133E-09	1.943E-08
BONE SUR	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	6.758E-07	3.881E-07
BREAST	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
TESTES	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
OVARIES	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
EDEWBODY	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.919E-08	3.518E-08
THYROIDH	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.138E-10	2.328E-09	1.333E-09
ADRENALS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
BLAD WAL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
KIDNEYS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
LIVER	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
PANCREAS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
SPLEEN	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
THYMUS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.328E-09	1.333E-09
ICRP60ED	9.506E-17	4.267E-14	8.959E-13	1.482E-18	-1.000E+00	4.573E-08	2.733E-08
SR-91							
STOMACH	3.574E-14	1.452E-11	3.413E-11	6.918E-16	1.653E-10	1.731E-10	8.625E-10
SMALL IN	3.251E-14	1.320E-11	3.100E-11	6.284E-16	2.333E-10	2.419E-10	1.353E-09
LUNGS	3.873E-14	1.571E-11	3.692E-11	7.483E-16	8.672E-10	9.243E-10	3.289E-11
RED MARR	3.932E-14	1.597E-11	3.754E-11	7.609E-16	7.944E-11	1.446E-10	1.233E-10
THYROID	4.863E-14	1.971E-11	4.633E-11	9.389E-16	-1.000E+00	4.434E-11	2.641E-11
LOWER LI	3.515E-14	1.426E-11	3.351E-11	6.791E-16	5.220E-10	6.234E-10	3.929E-09
BONE SUR	4.317E-14	1.753E-11	4.126E-11	8.363E-16	-1.000E+00	1.424E-10	9.812E-11
BREAST	4.654E-14	1.891E-11	4.449E-11	9.017E-16	-1.000E+00	4.814E-11	5.224E-11
TESTES	5.138E-14	2.087E-11	4.907E-11	9.946E-16	-1.000E+00	4.335E-11	4.141E-11
OVARIES	3.498E-14	1.422E-11	3.342E-11	6.774E-16	-1.000E+00	6.763E-11	2.120E-10
EDEWBODY	4.379E-14	1.777E-11	4.179E-11	8.470E-16	-1.000E+00	2.615E-10	6.790E-10
THYROIDH	4.863E-14	1.971E-11	4.633E-11	9.389E-16	3.583E-11	4.434E-11	2.641E-11
ADRENALS	3.781E-14	1.532E-11	3.603E-11	7.302E-16	-1.000E+00	5.668E-11	4.757E-11
BLAD WAL	3.650E-14	1.479E-11	3.475E-11	7.043E-16	-1.000E+00	5.018E-11	7.915E-11
KIDNEYS	3.809E-14	1.546E-11	3.633E-11	7.363E-16	-1.000E+00	5.182E-11	6.842E-11
LIVER	3.623E-14	1.471E-11	3.457E-11	7.007E-16	-1.000E+00	5.502E-11	5.657E-11
PANCREAS	3.132E-14	1.268E-11	2.981E-11	6.041E-16	-1.000E+00	5.801E-11	7.649E-11
SPLEEN	3.521E-14	1.429E-11	3.359E-11	6.807E-16	-1.000E+00	5.496E-11	6.127E-11
THYMUS	4.035E-14	1.636E-11	3.843E-11	7.789E-16	-1.000E+00	5.446E-11	2.799E-11
ICRP60ED	3.949E-14	1.661E-11	3.892E-11	8.240E-16	-1.000E+00	2.555E-10	6.591E-10
SR-92							
STOMACH	4.865E-14	1.029E-11	1.181E-11	8.393E-16	1.104E-10	1.108E-10	5.294E-10
SMALL IN	4.573E-14	9.646E-12	1.108E-11	7.871E-16	1.857E-10	1.861E-10	1.081E-09
LUNGS	5.276E-14	1.113E-11	1.278E-11	9.078E-16	7.104E-10	7.173E-10	1.948E-11
RED MARR	5.327E-14	1.123E-11	1.290E-11	9.164E-16	4.114E-11	4.213E-11	4.225E-11
THYROID	6.543E-14	1.386E-11	1.591E-11	1.130E-15	-1.000E+00	2.288E-11	1.418E-11
LOWER LI	4.856E-14	1.026E-11	1.178E-11	8.367E-16	3.252E-10	3.369E-10	2.179E-09
BONE SUR	5.635E-14	1.186E-11	1.362E-11	9.678E-16	-1.000E+00	5.591E-11	3.874E-11
BREAST	6.235E-14	1.312E-11	1.507E-11	1.071E-15	-1.000E+00	2.549E-11	2.743E-11
TESTES	6.920E-14	1.459E-11	1.676E-11	1.190E-15	-1.000E+00	2.176E-11	1.903E-11
OVARIES	4.719E-14	9.972E-12	1.145E-11	8.136E-16	-1.000E+00	3.134E-11	8.079E-11

EDEWBODY	5.901E-14	1.249E-11	1.434E-11	1.019E-15	-1.000E+00	1.741E-10	4.451E-10
THYROIDH	6.543E-14	1.386E-11	1.591E-11	1.130E-15	2.241E-11	2.288E-11	1.418E-11
ADRENALS	5.002E-14	1.060E-11	1.217E-11	8.650E-16	-1.000E+00	3.121E-11	3.012E-11
BLAD WAL	4.993E-14	1.060E-11	1.217E-11	8.650E-16	-1.000E+00	2.513E-11	3.645E-11
KIDNEYS	5.259E-14	1.113E-11	1.278E-11	9.078E-16	-1.000E+00	2.728E-11	3.953E-11
LIVER	4.984E-14	1.050E-11	1.205E-11	8.564E-16	-1.000E+00	2.922E-11	3.202E-11
PANCREAS	4.325E-14	9.132E-12	1.049E-11	7.451E-16	-1.000E+00	3.297E-11	5.902E-11
SPLEEN	4.822E-14	1.018E-11	1.169E-11	8.307E-16	-1.000E+00	2.953E-11	4.312E-11
THYMUS	5.524E-14	1.165E-11	1.338E-11	9.506E-16	-1.000E+00	3.174E-11	1.658E-11
ICRP60ED	5.426E-14	1.072E-11	1.231E-11	9.375E-16	-1.000E+00	1.730E-10	4.413E-10
Y-90							
STOMACH	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.745E-10	4.263E-10	1.060E-09
SMALL IN	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.713E-10	1.022E-09	2.557E-09
LUNGS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.311E-09	9.309E-09	1.264E-14
RED MARR	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.668E-12	1.507E-11	3.664E-13
THYROID	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.183E-13	1.264E-14
LOWER LI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.544E-09	1.262E-08	3.145E-08
BONE SUR	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.507E-11	3.664E-13
BREAST	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.184E-13	1.268E-14
TESTES	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.183E-13	1.264E-14
OVARIES	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.191E-13	1.438E-14
EDEWBODY	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.281E-09	2.905E-09
THYROIDH	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.153E-13	5.183E-13	1.264E-14
ADRENALS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.184E-13	1.264E-14
BLAD WAL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.183E-13	1.264E-14
KIDNEYS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.183E-13	1.264E-14
LIVER	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.496E-11	3.655E-13
PANCREAS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.183E-13	1.267E-14
SPLEEN	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.184E-13	1.264E-14
THYMUS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.183E-13	1.264E-14
ICRP60ED	6.320E-16	2.953E-12	2.982E-11	1.071E-16	-1.000E+00	2.217E-09	2.734E-09
Y-91							
STOMACH	1.319E-16	6.696E-14	1.352E-12	2.330E-18	2.740E-10	3.431E-10	6.914E-10
SMALL IN	1.225E-16	6.228E-14	1.258E-12	2.167E-18	6.656E-10	8.421E-10	1.737E-09
LUNGS	1.422E-16	7.237E-14	1.461E-12	2.518E-18	5.123E-09	9.836E-08	2.017E-13
RED MARR	1.439E-16	7.311E-14	1.476E-12	2.544E-18	2.798E-11	3.174E-10	6.562E-12
THYROID	1.781E-16	9.059E-14	1.829E-12	3.152E-18	-1.000E+00	8.479E-12	1.288E-13
LOWER LI	1.310E-16	6.646E-14	1.342E-12	2.312E-18	6.908E-09	1.455E-08	3.027E-08
BONE SUR	1.524E-16	7.754E-14	1.566E-12	2.698E-18	-1.000E+00	3.166E-10	6.108E-12
BREAST	1.679E-16	8.542E-14	1.725E-12	2.972E-18	-1.000E+00	8.908E-12	5.545E-13
TESTES	1.867E-16	9.527E-14	1.924E-12	3.314E-18	-1.000E+00	6.404E-12	4.137E-13
OVARIES	1.285E-16	6.523E-14	1.317E-12	2.270E-18	-1.000E+00	8.190E-12	3.532E-12
EDEWBODY	1.593E-16	8.123E-14	1.640E-12	2.826E-18	-1.000E+00	1.312E-08	2.571E-09
THYROIDH	1.781E-16	9.059E-14	1.829E-12	3.152E-18	6.243E-13	8.479E-12	1.288E-13
ADRENALS	1.362E-16	6.917E-14	1.397E-12	2.407E-18	-1.000E+00	1.054E-11	3.493E-13
BLAD WAL	1.345E-16	6.843E-14	1.382E-12	2.381E-18	-1.000E+00	6.908E-12	1.226E-12
KIDNEYS	1.413E-16	7.188E-14	1.451E-12	2.501E-18	-1.000E+00	8.469E-12	6.101E-13
LIVER	1.345E-16	6.819E-14	1.377E-12	2.372E-18	-1.000E+00	3.169E-10	6.164E-12
PANCREAS	1.165E-16	5.908E-14	1.193E-12	2.055E-18	-1.000E+00	1.076E-11	5.614E-13
SPLEEN	1.302E-16	6.597E-14	1.332E-12	2.295E-18	-1.000E+00	1.019E-11	5.062E-13
THYMUS	1.499E-16	7.631E-14	1.541E-12	2.655E-18	-1.000E+00	1.424E-11	1.538E-13
ICRP60ED	5.356E-16	2.109E-12	4.259E-11	7.355E-17	-1.000E+00	1.302E-08	2.399E-09
Y-92							
STOMACH	9.249E-15	2.467E-12	3.118E-12	1.696E-16	1.703E-10	1.705E-10	1.420E-09
SMALL IN	8.496E-15	2.267E-12	2.866E-12	1.559E-16	2.382E-10	2.390E-10	2.000E-09
LUNGS	9.935E-15	2.666E-12	3.370E-12	1.833E-16	1.242E-09	1.249E-09	1.393E-12
RED MARR	1.011E-14	2.704E-12	3.417E-12	1.858E-16	2.061E-12	2.079E-12	4.930E-12
THYROID	1.250E-14	3.339E-12	4.220E-12	2.295E-16	-1.000E+00	1.054E-12	1.776E-13
LOWER LI	9.078E-15	2.442E-12	3.086E-12	1.679E-16	1.959E-10	2.090E-10	1.749E-09
BONE SUR	1.088E-14	2.915E-12	3.685E-12	2.004E-16	-1.000E+00	1.512E-12	1.754E-12
BREAST	1.182E-14	3.177E-12	4.015E-12	2.184E-16	-1.000E+00	1.503E-12	3.564E-12
TESTES	1.319E-14	3.526E-12	4.456E-12	2.424E-16	-1.000E+00	3.494E-13	1.399E-12
OVARIES	8.993E-15	2.417E-12	3.055E-12	1.661E-16	-1.000E+00	2.628E-12	1.971E-11
EDEWBODY	1.122E-14	3.003E-12	3.795E-12	2.064E-16	-1.000E+00	2.125E-10	5.153E-10
THYROIDH	1.250E-14	3.339E-12	4.220E-12	2.295E-16	1.049E-12	1.054E-12	1.776E-13
ADRENALS	9.592E-15	2.579E-12	3.259E-12	1.773E-16	-1.000E+00	2.121E-12	3.140E-12
BLAD WAL	9.421E-15	2.517E-12	3.181E-12	1.730E-16	-1.000E+00	8.910E-13	5.595E-12

KIDNEYS	9.849E-15	2.641E-12	3.338E-12	1.816E-16	-1.000E+00	1.660E-12	6.531E-12
LIVER	9.335E-15	2.504E-12	3.165E-12	1.721E-16	-1.000E+00	2.822E-12	4.555E-12
PANCREAS	8.110E-15	2.168E-12	2.740E-12	1.490E-16	-1.000E+00	2.998E-12	1.001E-11
SPLEEN	9.078E-15	2.429E-12	3.071E-12	1.670E-16	-1.000E+00	2.381E-12	6.467E-12
THYMUS	1.045E-14	2.803E-12	3.543E-12	1.927E-16	-1.000E+00	3.113E-12	5.906E-13
ICRP60ED	1.126E-14	4.565E-12	5.769E-12	3.265E-16	-1.000E+00	2.172E-10	5.557E-10
Y-93							
STOMACH	3.366E-15	1.319E-12	3.122E-12	5.952E-17	2.810E-10	2.896E-10	1.280E-09
SMALL IN	3.126E-15	1.219E-12	2.884E-12	5.498E-17	5.455E-10	5.711E-10	2.524E-09
LUNGS	3.640E-15	1.427E-12	3.378E-12	6.440E-17	2.176E-09	2.524E-09	8.661E-13
RED MARR	3.700E-15	1.450E-12	3.432E-12	6.543E-17	3.495E-12	4.018E-12	4.936E-12
THYROID	4.496E-15	1.767E-12	4.183E-12	7.973E-17	-1.000E+00	9.250E-13	1.259E-13
LOWER LI	3.340E-15	1.308E-12	3.095E-12	5.901E-17	1.398E-09	1.997E-09	8.844E-09
BONE SUR	4.051E-15	1.604E-12	3.796E-12	7.237E-17	-1.000E+00	3.134E-12	1.726E-12
BREAST	4.436E-15	1.752E-12	4.147E-12	7.905E-17	-1.000E+00	1.742E-12	3.121E-12
TESTES	4.787E-15	1.881E-12	4.452E-12	8.487E-17	-1.000E+00	6.650E-13	1.777E-12
OVARIES	3.186E-15	1.247E-12	2.952E-12	5.627E-17	-1.000E+00	5.307E-12	2.194E-11
EDEWBODY	4.111E-15	1.615E-12	3.823E-12	7.288E-17	-1.000E+00	5.829E-10	1.232E-09
THYROIDH	4.496E-15	1.767E-12	4.183E-12	7.973E-17	8.313E-13	9.250E-13	1.259E-13
ADRENALS	3.469E-15	1.367E-12	3.235E-12	6.166E-17	-1.000E+00	1.925E-12	2.236E-12
BLAD WAL	3.434E-15	1.344E-12	3.181E-12	6.064E-17	-1.000E+00	1.760E-12	6.438E-12
KIDNEYS	3.623E-15	1.414E-12	3.347E-12	6.380E-17	-1.000E+00	1.889E-12	4.753E-12
LIVER	3.434E-15	1.344E-12	3.181E-12	6.064E-17	-1.000E+00	4.347E-12	3.509E-12
PANCREAS	2.980E-15	1.164E-12	2.754E-12	5.250E-17	-1.000E+00	2.910E-12	5.681E-12
SPLEEN	3.323E-15	1.302E-12	3.082E-12	5.875E-17	-1.000E+00	2.392E-12	3.867E-12
THYMUS	3.768E-15	1.477E-12	3.495E-12	6.663E-17	-1.000E+00	2.786E-12	3.613E-13
ICRP60ED	4.547E-15	4.117E-12	9.744E-12	1.902E-16	-1.000E+00	5.817E-10	1.230E-09
ZR-95							
STOMACH	2.664E-14	1.499E-11	3.038E-10	5.216E-16	1.541E-10	1.085E-09	3.568E-10
SMALL IN	2.407E-14	1.357E-11	2.748E-10	4.719E-16	3.296E-10	9.802E-10	1.119E-09
LUNGS	2.869E-14	1.620E-11	3.282E-10	5.635E-16	1.137E-09	1.843E-08	2.342E-11
RED MARR	2.920E-14	1.647E-11	3.337E-10	5.730E-16	2.845E-10	3.207E-09	2.135E-10
THYROID	3.614E-14	2.039E-11	4.130E-10	7.091E-16	-1.000E+00	7.790E-10	8.238E-12
LOWER LI	2.604E-14	1.470E-11	2.978E-10	5.113E-16	1.573E-09	4.164E-09	7.778E-09
BONE SUR	3.203E-14	1.807E-11	3.661E-10	6.286E-16	-1.000E+00	2.172E-08	4.860E-10
BREAST	3.451E-14	1.945E-11	3.941E-10	6.766E-16	-1.000E+00	9.280E-10	1.047E-10
TESTES	3.820E-14	2.154E-11	4.365E-10	7.494E-16	-1.000E+00	3.023E-10	8.032E-11
OVARIES	2.612E-14	1.475E-11	2.988E-10	5.130E-16	-1.000E+00	8.361E-10	8.153E-10
EDEWBODY	3.254E-14	1.834E-11	3.716E-10	6.380E-16	-1.000E+00	4.327E-09	1.027E-09
THYROIDH	3.614E-14	2.039E-11	4.130E-10	7.091E-16	6.141E-11	7.790E-10	8.238E-12
ADRENALS	2.818E-14	1.588E-11	3.217E-10	5.524E-16	-1.000E+00	1.520E-09	6.083E-11
BLAD WAL	2.706E-14	1.526E-11	3.093E-10	5.310E-16	-1.000E+00	3.793E-10	2.436E-10
KIDNEYS	2.826E-14	1.593E-11	3.227E-10	5.541E-16	-1.000E+00	8.129E-10	1.131E-10
LIVER	2.689E-14	1.517E-11	3.073E-10	5.276E-16	-1.000E+00	1.172E-09	7.775E-11
PANCREAS	2.321E-14	1.307E-11	2.649E-10	4.548E-16	-1.000E+00	1.302E-09	1.044E-10
SPLEEN	2.612E-14	1.472E-11	2.983E-10	5.121E-16	-1.000E+00	1.150E-09	8.833E-11
THYMUS	2.998E-14	1.691E-11	3.427E-10	5.884E-16	-1.000E+00	1.718E-09	1.300E-11
ICRP60ED	2.964E-14	1.559E-11	3.159E-10	5.810E-16	-1.000E+00	3.707E-09	8.365E-10
ZR-97							
STOMACH	3.154E-14	1.496E-11	5.354E-11	6.106E-16	3.772E-10	4.175E-10	1.213E-09
SMALL IN	2.858E-14	1.358E-11	4.859E-11	5.542E-16	7.834E-10	8.857E-10	3.389E-09
LUNGS	3.404E-14	1.617E-11	5.786E-11	6.598E-16	2.789E-09	3.957E-09	1.759E-11
RED MARR	3.462E-14	1.645E-11	5.886E-11	6.713E-16	1.079E-10	1.396E-10	1.297E-10
THYROID	4.272E-14	2.030E-11	7.266E-11	8.286E-16	-1.000E+00	3.744E-11	2.662E-12
LOWER LI	3.090E-14	1.468E-11	5.254E-11	5.992E-16	2.609E-09	4.271E-09	1.795E-08
BONE SUR	3.796E-14	1.804E-11	6.454E-11	7.361E-16	-1.000E+00	1.217E-10	4.538E-11
BREAST	4.092E-14	1.944E-11	6.958E-11	7.935E-16	-1.000E+00	5.790E-11	8.094E-11
TESTES	4.527E-14	2.149E-11	7.690E-11	8.770E-16	-1.000E+00	2.986E-11	5.200E-11
OVARIES	3.084E-14	1.466E-11	5.246E-11	5.983E-16	-1.000E+00	1.696E-10	6.219E-10
EDEWBODY	3.852E-14	1.830E-11	6.547E-11	7.467E-16	-1.000E+00	1.067E-09	2.288E-09
THYROIDH	4.272E-14	2.030E-11	7.266E-11	8.286E-16	2.788E-11	3.744E-11	2.662E-12
ADRENALS	3.328E-14	1.580E-11	5.656E-11	6.450E-16	-1.000E+00	7.040E-11	4.879E-11
BLAD WAL	3.208E-14	1.522E-11	5.448E-11	6.213E-16	-1.000E+00	6.089E-11	1.748E-10
KIDNEYS	3.354E-14	1.591E-11	5.692E-11	6.492E-16	-1.000E+00	6.149E-11	1.103E-10
LIVER	3.190E-14	1.514E-11	5.419E-11	6.181E-16	-1.000E+00	7.471E-11	7.952E-11
PANCREAS	2.752E-14	1.305E-11	4.672E-11	5.328E-16	-1.000E+00	8.662E-11	1.071E-10
SPLEEN	3.097E-14	1.470E-11	5.261E-11	6.000E-16	-1.000E+00	7.261E-11	7.999E-11

THYMUS	3.553E-14	1.687E-11	6.037E-11	6.885E-16	-1.000E+00	8.028E-11	7.520E-12
ICRP60ED	3.369E-14	1.757E-11	6.287E-11	7.260E-16	-1.000E+00	1.030E-09	2.114E-09
NB-95							
STOMACH	2.775E-14	1.556E-11	3.063E-10	5.421E-16	1.287E-10	6.362E-10	2.796E-10
SMALL IN	2.518E-14	1.409E-11	2.772E-10	4.907E-16	2.838E-10	5.201E-10	9.116E-10
LUNGS	2.998E-14	1.682E-11	3.309E-10	5.858E-16	5.701E-10	8.319E-09	2.743E-11
RED MARR	3.049E-14	1.709E-11	3.362E-10	5.952E-16	1.212E-10	4.425E-10	1.993E-10
THYROID	3.777E-14	2.117E-11	4.166E-10	7.374E-16	-1.000E+00	3.582E-10	1.184E-11
LOWER LI	2.723E-14	1.524E-11	3.000E-10	5.310E-16	9.234E-10	1.928E-09	4.009E-09
BONE SUR	3.332E-14	1.868E-11	3.677E-10	6.509E-16	-1.000E+00	5.161E-10	2.965E-10
BREAST	3.588E-14	2.013E-11	3.962E-10	7.014E-16	-1.000E+00	4.062E-10	1.074E-10
TESTES	3.982E-14	2.232E-11	4.393E-10	7.776E-16	-1.000E+00	6.507E-11	9.664E-11
OVARIES	2.732E-14	1.529E-11	3.009E-10	5.327E-16	-1.000E+00	4.310E-10	8.030E-10
EDEWBODY	3.391E-14	1.900E-11	3.740E-10	6.620E-16	-1.000E+00	1.652E-09	7.029E-10
THYROIDH	3.777E-14	2.117E-11	4.166E-10	7.374E-16	4.278E-11	3.582E-10	1.184E-11
ADRENALS	2.938E-14	1.645E-11	3.237E-10	5.730E-16	-1.000E+00	6.735E-10	6.784E-11
BLAD WAL	2.826E-14	1.583E-11	3.116E-10	5.515E-16	-1.000E+00	1.420E-10	2.422E-10
KIDNEYS	2.955E-14	1.655E-11	3.256E-10	5.764E-16	-1.000E+00	3.477E-10	1.372E-10
LIVER	2.809E-14	1.573E-11	3.096E-10	5.481E-16	-1.000E+00	6.682E-10	8.282E-11
PANCREAS	2.424E-14	1.357E-11	2.671E-10	4.728E-16	-1.000E+00	7.112E-10	1.116E-10
SPLEEN	2.723E-14	1.527E-11	3.004E-10	5.318E-16	-1.000E+00	6.367E-10	1.124E-10
THYMUS	3.135E-14	1.758E-11	3.459E-10	6.124E-16	-1.000E+00	1.049E-09	1.649E-11
ICRP60ED	3.090E-14	1.617E-11	3.183E-10	6.035E-16	-1.000E+00	1.507E-09	5.398E-10
MO-99							
STOMACH	5.515E-15	3.028E-12	3.114E-11	1.096E-16	1.894E-10	2.325E-10	5.135E-10
SMALL IN	4.976E-15	2.744E-12	2.822E-11	9.935E-17	4.221E-10	5.189E-10	1.249E-09
LUNGS	5.978E-15	3.288E-12	3.382E-11	1.190E-16	1.482E-09	4.292E-09	1.506E-11
RED MARR	6.046E-15	3.312E-12	3.406E-11	1.199E-16	3.096E-11	5.074E-11	7.972E-11
THYROID	7.579E-15	4.187E-12	4.306E-11	1.516E-16	-1.000E+00	1.516E-11	1.034E-11
LOWER LI	5.404E-15	2.981E-12	3.065E-11	1.079E-16	2.860E-09	5.516E-09	1.367E-08
BONE SUR	6.920E-15	3.833E-12	3.941E-11	1.387E-16	-1.000E+00	4.290E-11	6.669E-11
BREAST	7.400E-15	4.116E-12	4.233E-11	1.490E-16	-1.000E+00	2.748E-11	3.422E-11
TESTES	7.982E-15	4.400E-12	4.525E-11	1.593E-16	-1.000E+00	1.220E-11	2.719E-11
OVARIES	5.361E-15	2.934E-12	3.017E-11	1.062E-16	-1.000E+00	9.503E-11	2.174E-10
EDEWBODY	6.826E-15	3.762E-12	3.868E-11	1.362E-16	-1.000E+00	1.075E-09	1.362E-09
THYROIDH	7.579E-15	4.187E-12	4.306E-11	1.516E-16	5.884E-12	1.516E-11	1.034E-11
ADRENALS	5.867E-15	3.217E-12	3.309E-11	1.165E-16	-1.000E+00	3.522E-11	2.532E-11
BLAD WAL	5.610E-15	3.075E-12	3.163E-11	1.113E-16	-1.000E+00	3.284E-11	7.464E-11
KIDNEYS	5.849E-15	3.217E-12	3.309E-11	1.165E-16	-1.000E+00	9.326E-11	1.768E-10
LIVER	5.575E-15	3.075E-12	3.163E-11	1.113E-16	-1.000E+00	1.085E-10	1.792E-10
PANCREAS	4.796E-15	2.626E-12	2.700E-11	9.506E-17	-1.000E+00	4.179E-11	3.837E-11
SPLEEN	5.430E-15	2.981E-12	3.065E-11	1.079E-16	-1.000E+00	3.511E-11	3.096E-11
THYMUS	6.252E-15	3.430E-12	3.528E-11	1.242E-16	-1.000E+00	4.388E-11	1.217E-11
ICRP60ED	6.393E-15	4.165E-12	4.283E-11	1.589E-16	-1.000E+00	1.034E-09	1.254E-09
TC-99M							
STOMACH	4.137E-15	1.725E-12	2.865E-12	9.164E-17	1.437E-11	1.519E-11	7.169E-11
SMALL IN	3.597E-15	1.499E-12	2.490E-12	7.965E-17	3.397E-12	3.520E-12	2.227E-11
LUNGS	4.608E-15	1.918E-12	3.187E-12	1.019E-16	2.918E-11	3.061E-11	3.151E-12
RED MARR	4.205E-15	1.757E-12	2.919E-12	9.335E-17	2.296E-12	2.389E-12	6.273E-12
THYROID	6.346E-15	2.643E-12	4.391E-12	1.405E-16	-1.000E+00	2.088E-11	8.449E-11
LOWER LI	4.042E-15	1.692E-12	2.812E-12	8.993E-17	3.371E-12	3.834E-12	2.545E-11
BONE SUR	7.220E-15	3.014E-12	5.007E-12	1.602E-16	-1.000E+00	1.784E-12	4.064E-12
BREAST	7.211E-15	3.046E-12	5.061E-12	1.619E-16	-1.000E+00	1.520E-12	3.563E-12
TESTES	6.423E-15	2.692E-12	4.472E-12	1.430E-16	-1.000E+00	5.222E-13	2.294E-12
OVARIES	3.614E-15	1.512E-12	2.512E-12	8.033E-17	-1.000E+00	1.703E-12	9.738E-12
EDEWBODY	5.635E-15	2.353E-12	3.909E-12	1.250E-16	-1.000E+00	7.451E-12	1.673E-11
THYROIDH	6.346E-15	2.643E-12	4.391E-12	1.405E-16	1.968E-11	2.088E-11	8.449E-11
ADRENALS	4.539E-15	1.902E-12	3.160E-12	1.011E-16	-1.000E+00	2.547E-12	4.324E-12
BLAD WAL	4.188E-15	1.741E-12	2.892E-12	9.249E-17	-1.000E+00	9.250E-13	4.537E-12
KIDNEYS	4.248E-15	1.773E-12	2.946E-12	9.421E-17	-1.000E+00	1.545E-12	5.215E-12
LIVER	4.179E-15	1.741E-12	2.892E-12	9.249E-17	-1.000E+00	2.481E-12	4.713E-12
PANCREAS	3.469E-15	1.447E-12	2.405E-12	7.691E-17	-1.000E+00	3.589E-12	1.063E-11
SPLEEN	4.179E-15	1.741E-12	2.892E-12	9.249E-17	-1.000E+00	2.774E-12	7.043E-12
THYMUS	4.950E-15	2.063E-12	3.428E-12	1.096E-16	-1.000E+00	3.373E-12	3.085E-12
ICRP60ED	4.745E-15	1.854E-12	3.080E-12	1.053E-16	-1.000E+00	8.221E-12	2.069E-11
RU-103							
STOMACH	1.662E-14	9.841E-12	1.950E-10	3.427E-16	1.212E-10	5.047E-10	3.143E-10

SMALL IN	1.490E-14	8.806E-12	1.745E-10	3.067E-16	2.683E-10	4.713E-10	8.509E-10
LUNGS	1.807E-14	1.070E-11	2.121E-10	3.728E-16	9.950E-10	1.560E-08	7.350E-11
RED MARR	1.850E-14	1.095E-11	2.169E-10	3.812E-16	8.176E-11	3.183E-10	1.666E-10
THYROID	2.244E-14	1.332E-11	2.639E-10	4.639E-16	-1.000E+00	2.564E-10	6.289E-11
LOWER LI	1.619E-14	9.595E-12	1.901E-10	3.342E-16	1.489E-09	3.135E-09	6.534E-09
BONE SUR	2.116E-14	1.255E-11	2.488E-10	4.372E-16	-1.000E+00	2.371E-10	9.661E-11
BREAST	2.255E-14	1.343E-11	2.664E-10	4.683E-16	-1.000E+00	3.103E-10	1.200E-10
TESTES	2.425E-14	1.439E-11	2.853E-10	5.015E-16	-1.000E+00	6.971E-11	1.220E-10
OVARIES	1.619E-14	9.571E-12	1.896E-10	3.333E-16	-1.000E+00	3.070E-10	5.712E-10
EDEWBODY	2.073E-14	1.230E-11	2.437E-10	4.283E-16	-1.000E+00	2.485E-09	8.278E-10
THYROIDH	2.244E-14	1.332E-11	2.639E-10	4.639E-16	2.856E-11	2.564E-10	6.289E-11
ADRENALS	1.782E-14	1.058E-11	2.097E-10	3.685E-16	-1.000E+00	5.083E-10	1.110E-10
BLAD WAL	1.696E-14	1.004E-11	1.989E-10	3.495E-16	-1.000E+00	1.257E-10	2.206E-10
KIDNEYS	1.756E-14	1.041E-11	2.063E-10	3.626E-16	-1.000E+00	2.618E-10	1.314E-10
LIVER	1.679E-14	9.963E-12	1.974E-10	3.470E-16	-1.000E+00	4.979E-10	1.125E-10
PANCREAS	1.448E-14	8.586E-12	1.701E-10	2.990E-16	-1.000E+00	5.788E-10	1.284E-10
SPLEEN	1.644E-14	9.742E-12	1.930E-10	3.393E-16	-1.000E+00	4.538E-10	1.179E-10
THYMUS	1.833E-14	1.087E-11	2.154E-10	3.787E-16	-1.000E+00	7.098E-10	6.768E-11
ICRP60ED	1.860E-14	1.030E-11	2.042E-10	3.840E-16	-1.000E+00	2.379E-09	7.065E-10
RU-105							
STOMACH	2.783E-14	9.155E-12	1.284E-11	5.567E-16	7.924E-11	8.095E-11	4.980E-10
SMALL IN	2.509E-14	8.254E-12	1.157E-11	5.019E-16	1.205E-10	1.248E-10	7.898E-10
LUNGS	3.015E-14	9.916E-12	1.390E-11	6.029E-16	4.975E-10	5.725E-10	6.210E-12
RED MARR	3.075E-14	1.011E-11	1.418E-11	6.149E-16	7.221E-12	7.688E-12	2.340E-11
THYROID	3.794E-14	1.247E-11	1.748E-11	7.579E-16	-1.000E+00	4.145E-12	1.813E-12
LOWER LI	2.723E-14	8.972E-12	1.258E-11	5.455E-16	2.058E-10	3.048E-10	1.339E-09
BONE SUR	3.451E-14	1.139E-11	1.598E-11	6.929E-16	-1.000E+00	4.616E-12	8.893E-12
BREAST	3.700E-14	1.218E-11	1.708E-11	7.408E-16	-1.000E+00	6.609E-12	1.591E-11
TESTES	4.025E-14	1.324E-11	1.856E-11	8.050E-16	-1.000E+00	1.523E-12	7.596E-12
OVARIES	2.715E-14	8.916E-12	1.250E-11	5.421E-16	-1.000E+00	1.590E-11	9.669E-11
EDEWBODY	3.434E-14	1.131E-11	1.586E-11	6.877E-16	-1.000E+00	1.235E-10	2.868E-10
THYROIDH	3.794E-14	1.247E-11	1.748E-11	7.579E-16	3.876E-12	4.145E-12	1.813E-12
ADRENALS	2.963E-14	9.761E-12	1.369E-11	5.935E-16	-1.000E+00	9.363E-12	1.291E-11
BLAD WAL	2.835E-14	9.310E-12	1.305E-11	5.661E-16	-1.000E+00	4.741E-12	2.709E-11
KIDNEYS	2.946E-14	9.705E-12	1.361E-11	5.901E-16	-1.000E+00	7.240E-12	2.693E-11
LIVER	2.818E-14	9.254E-12	1.298E-11	5.627E-16	-1.000E+00	1.020E-11	1.917E-11
PANCREAS	2.424E-14	7.986E-12	1.120E-11	4.856E-16	-1.000E+00	1.352E-11	3.844E-11
SPLEEN	2.741E-14	9.028E-12	1.266E-11	5.490E-16	-1.000E+00	1.038E-11	2.502E-11
THYMUS	3.126E-14	1.028E-11	1.442E-11	6.252E-16	-1.000E+00	1.223E-11	3.022E-12
ICRP60ED	3.130E-14	1.014E-11	1.421E-11	6.573E-16	-1.000E+00	1.222E-10	2.813E-10
RU-106							
STOMACH	7.280E-15	4.186E-12	8.747E-11	1.456E-16	6.984E-10	2.938E-09	3.119E-09
SMALL IN	6.569E-15	3.767E-12	7.872E-11	1.310E-16	1.589E-09	3.397E-09	5.548E-09
LUNGS	7.896E-15	4.530E-12	9.467E-11	1.576E-16	2.088E-08	1.037E-06	1.435E-09
RED MARR	8.059E-15	4.629E-12	9.673E-11	1.610E-16	8.744E-11	1.770E-09	1.483E-09
THYROID	9.849E-15	5.638E-12	1.178E-10	1.961E-16	-1.000E+00	1.733E-09	1.432E-09
LOWER LI	7.126E-15	4.087E-12	8.541E-11	1.422E-16	1.604E-08	3.713E-08	7.087E-08
BONE SUR	8.993E-15	5.195E-12	1.086E-10	1.807E-16	-1.000E+00	1.620E-09	1.445E-09
BREAST	9.678E-15	5.540E-12	1.158E-10	1.927E-16	-1.000E+00	1.798E-09	1.457E-09
TESTES	1.053E-14	6.057E-12	1.266E-10	2.107E-16	-1.000E+00	1.154E-09	1.474E-09
OVARIES	7.108E-15	4.087E-12	8.541E-11	1.422E-16	-1.000E+00	1.308E-09	1.656E-09
EDEWBODY	8.993E-15	5.170E-12	1.081E-10	1.799E-16	-1.000E+00	1.289E-07	7.419E-09
THYROIDH	9.849E-15	5.638E-12	1.178E-10	1.961E-16	4.022E-11	1.733E-09	1.432E-09
ADRENALS	7.751E-15	4.456E-12	9.313E-11	1.550E-16	-1.000E+00	2.352E-09	1.478E-09
BLAD WAL	7.417E-15	4.259E-12	8.901E-11	1.482E-16	-1.000E+00	1.202E-09	1.518E-09
KIDNEYS	7.725E-15	4.432E-12	9.262E-11	1.542E-16	-1.000E+00	1.659E-09	1.471E-09
LIVER	7.374E-15	4.235E-12	8.850E-11	1.473E-16	-1.000E+00	2.320E-09	1.463E-09
PANCREAS	6.355E-15	3.644E-12	7.615E-11	1.268E-16	-1.000E+00	2.469E-09	1.470E-09
SPLEEN	7.185E-15	4.112E-12	8.593E-11	1.430E-16	-1.000E+00	2.205E-09	1.465E-09
THYMUS	8.119E-15	4.653E-12	9.725E-11	1.619E-16	-1.000E+00	3.012E-09	1.433E-09
ICRP60ED	8.563E-15	8.374E-12	1.750E-10	2.913E-16	-1.000E+00	1.288E-07	6.983E-09
RH-105							
STOMACH	2.595E-15	1.491E-12	9.889E-12	5.593E-17	6.353E-11	7.262E-11	1.946E-10
SMALL IN	2.312E-15	1.326E-12	8.799E-12	4.976E-17	1.353E-10	1.578E-10	4.427E-10
LUNGS	2.843E-15	1.630E-12	1.081E-11	6.115E-17	4.797E-10	9.509E-10	3.847E-12
RED MARR	2.938E-15	1.682E-12	1.116E-11	6.312E-17	5.385E-12	7.746E-12	1.463E-11
THYROID	3.606E-15	2.071E-12	1.374E-11	7.768E-17	-1.000E+00	2.878E-12	2.894E-12

LOWER LI	2.552E-15	1.466E-12	9.723E-12	5.498E-17	7.389E-10	1.347E-09	3.781E-09
BONE SUR	3.631E-15	2.084E-12	1.383E-11	7.819E-17	-1.000E+00	4.441E-12	6.731E-12
BREAST	3.811E-15	2.187E-12	1.451E-11	8.205E-17	-1.000E+00	5.592E-12	8.959E-12
TESTES	3.845E-15	2.205E-12	1.463E-11	8.273E-17	-1.000E+00	2.827E-12	7.209E-12
OVARIES	2.415E-15	1.386E-12	9.193E-12	5.199E-17	-1.000E+00	2.105E-11	5.798E-11
EDEWBODY	3.332E-15	1.911E-12	1.268E-11	7.168E-17	-1.000E+00	2.573E-10	3.980E-10
THYROIDH	3.606E-15	2.071E-12	1.374E-11	7.768E-17	1.432E-12	2.878E-12	2.894E-12
ADRENALS	2.860E-15	1.641E-12	1.089E-11	6.158E-17	-1.000E+00	6.571E-12	6.355E-12
BLAD WAL	2.646E-15	1.516E-12	1.006E-11	5.687E-17	-1.000E+00	6.923E-12	1.848E-11
KIDNEYS	2.723E-15	1.564E-12	1.037E-11	5.867E-17	-1.000E+00	5.588E-12	1.061E-11
LIVER	2.629E-15	1.509E-12	1.001E-11	5.661E-17	-1.000E+00	7.243E-12	8.362E-12
PANCREAS	2.270E-15	1.304E-12	8.647E-12	4.890E-17	-1.000E+00	8.571E-12	1.120E-11
SPLEEN	2.604E-15	1.491E-12	9.889E-12	5.593E-17	-1.000E+00	7.013E-12	8.663E-12
THYMUS	2.903E-15	1.664E-12	1.104E-11	6.243E-17	-1.000E+00	7.812E-12	3.404E-12
ICRP60ED	2.993E-15	1.595E-12	1.058E-11	6.392E-17	-1.000E+00	2.484E-10	3.731E-10
SB-127							
STOMACH	2.338E-14	1.312E-11	1.614E-10	4.693E-16	2.278E-10	3.267E-10	5.597E-10
SMALL IN	2.107E-14	1.180E-11	1.452E-10	4.222E-16	5.199E-10	7.090E-10	1.630E-09
LUNGS	2.535E-14	1.422E-11	1.749E-10	5.087E-16	1.712E-09	6.915E-09	1.574E-11
RED MARR	2.586E-14	1.451E-11	1.784E-10	5.190E-16	9.334E-11	1.547E-10	1.317E-10
THYROID	3.177E-14	1.786E-11	2.197E-10	6.389E-16	-1.000E+00	6.144E-11	4.642E-12
LOWER LI	2.287E-14	1.283E-11	1.578E-10	4.590E-16	3.663E-09	7.432E-09	1.959E-08
BONE SUR	2.903E-14	1.635E-11	2.011E-10	5.849E-16	-1.000E+00	1.331E-10	5.225E-11
BREAST	3.109E-14	1.750E-11	2.152E-10	6.261E-16	-1.000E+00	9.102E-11	7.574E-11
TESTES	3.383E-14	1.901E-11	2.338E-10	6.800E-16	-1.000E+00	4.588E-11	5.894E-11
OVARIES	2.278E-14	1.278E-11	1.572E-10	4.573E-16	-1.000E+00	2.521E-10	6.148E-10
EDEWBODY	2.886E-14	1.621E-11	1.993E-10	5.798E-16	-1.000E+00	1.633E-09	1.948E-09
THYROIDH	3.177E-14	1.786E-11	2.197E-10	6.389E-16	2.443E-11	6.144E-11	4.642E-12
ADRENALS	2.492E-14	1.398E-11	1.720E-10	5.002E-16	-1.000E+00	1.174E-10	4.134E-11
BLAD WAL	2.381E-14	1.336E-11	1.643E-10	4.779E-16	-1.000E+00	9.275E-11	1.816E-10
KIDNEYS	2.475E-14	1.391E-11	1.711E-10	4.976E-16	-1.000E+00	8.862E-11	8.715E-11
LIVER	2.364E-14	1.326E-11	1.631E-10	4.745E-16	-1.000E+00	2.120E-10	7.334E-11
PANCREAS	2.038E-14	1.142E-11	1.405E-10	4.085E-16	-1.000E+00	1.353E-10	8.400E-11
SPLEEN	2.304E-14	1.293E-11	1.590E-10	4.625E-16	-1.000E+00	1.139E-10	6.691E-11
THYMUS	2.621E-14	1.470E-11	1.808E-10	5.259E-16	-1.000E+00	1.416E-10	8.271E-12
ICRP60ED	2.627E-14	1.425E-11	1.753E-10	5.443E-16	-1.000E+00	1.558E-09	1.734E-09
SB-129							
STOMACH	5.250E-14	1.598E-11	2.210E-11	9.849E-16	1.226E-10	1.235E-10	7.245E-10
SMALL IN	4.813E-14	1.459E-11	2.018E-11	8.993E-16	1.888E-10	1.912E-10	1.473E-09
LUNGS	5.678E-14	1.723E-11	2.383E-11	1.062E-15	8.357E-10	8.954E-10	9.379E-12
RED MARR	5.755E-14	1.750E-11	2.421E-11	1.079E-15	1.608E-11	1.654E-11	3.661E-11
THYROID	7.100E-14	2.153E-11	2.978E-11	1.327E-15	-1.000E+00	9.720E-12	1.464E-12
LOWER LI	5.173E-14	1.570E-11	2.171E-11	9.678E-16	2.014E-10	2.321E-10	1.929E-09
BONE SUR	6.243E-14	1.903E-11	2.633E-11	1.173E-15	-1.000E+00	1.481E-11	1.332E-11
BREAST	6.783E-14	2.056E-11	2.844E-11	1.268E-15	-1.000E+00	1.281E-11	2.560E-11
TESTES	7.502E-14	2.278E-11	3.151E-11	1.405E-15	-1.000E+00	5.415E-12	1.105E-11
OVARIES	5.121E-14	1.556E-11	2.152E-11	9.592E-16	-1.000E+00	2.148E-11	1.514E-10
EDEWBODY	6.398E-14	1.945E-11	2.690E-11	1.199E-15	-1.000E+00	1.740E-10	4.830E-10
THYROIDH	7.100E-14	2.153E-11	2.978E-11	1.327E-15	9.521E-12	9.720E-12	1.464E-12
ADRENALS	5.490E-14	1.667E-11	2.306E-11	1.028E-15	-1.000E+00	1.733E-11	2.138E-11
BLAD WAL	5.353E-14	1.625E-11	2.248E-11	1.002E-15	-1.000E+00	9.313E-12	4.238E-11
KIDNEYS	5.610E-14	1.695E-11	2.344E-11	1.045E-15	-1.000E+00	1.389E-11	4.516E-11
LIVER	5.327E-14	1.611E-11	2.229E-11	9.935E-16	-1.000E+00	2.419E-11	3.242E-11
PANCREAS	4.608E-14	1.389E-11	1.922E-11	8.564E-16	-1.000E+00	2.243E-11	6.457E-11
SPLEEN	5.164E-14	1.570E-11	2.171E-11	9.678E-16	-1.000E+00	1.851E-11	4.188E-11
THYMUS	5.935E-14	1.806E-11	2.498E-11	1.113E-15	-1.000E+00	2.298E-11	4.010E-12
ICRP60ED	5.860E-14	1.701E-11	2.353E-11	1.122E-15	-1.000E+00	1.742E-10	4.702E-10
TE-127							
STOMACH	1.636E-16	7.517E-14	1.680E-13	3.460E-18	4.321E-11	4.465E-11	2.425E-10
SMALL IN	1.465E-16	6.717E-14	1.501E-13	3.092E-18	6.822E-11	7.117E-11	3.896E-10
LUNGS	1.790E-16	8.205E-14	1.834E-13	3.777E-18	3.727E-10	4.258E-10	2.885E-12
RED MARR	1.833E-16	8.428E-14	1.884E-13	3.880E-18	3.342E-12	3.986E-12	6.413E-12
THYROID	2.244E-16	1.029E-13	2.300E-13	4.736E-18	-1.000E+00	1.844E-12	2.855E-12
LOWER LI	1.602E-16	7.368E-14	1.647E-13	3.391E-18	1.640E-10	2.275E-10	1.265E-09
BONE SUR	2.192E-16	1.007E-13	2.250E-13	4.633E-18	-1.000E+00	4.063E-12	6.424E-12
BREAST	2.312E-16	1.061E-13	2.371E-13	4.882E-18	-1.000E+00	1.878E-12	2.998E-12
TESTES	2.407E-16	1.105E-13	2.470E-13	5.087E-18	-1.000E+00	1.828E-12	2.940E-12

OVARIES	1.559E-16	7.163E-14	1.601E-13	3.297E-18-1.000E+00	2.029E-12	4.040E-12
EDEWBODY	2.073E-16	9.508E-14	2.125E-13	4.376E-18-1.000E+00	8.597E-11	1.874E-10
THYROIDH	2.244E-16	1.029E-13	2.300E-13	4.736E-18 1.590E-12	1.844E-12	2.855E-12
ADRENALS	1.781E-16	8.187E-14	1.830E-13	3.768E-18-1.000E+00	1.911E-12	2.961E-12
BLAD WAL	1.670E-16	7.647E-14	1.709E-13	3.520E-18-1.000E+00	1.871E-12	3.170E-12
KIDNEYS	1.721E-16	7.907E-14	1.768E-13	3.640E-18-1.000E+00	1.886E-12	3.097E-12
LIVER	1.661E-16	7.610E-14	1.701E-13	3.503E-18-1.000E+00	1.921E-12	3.021E-12
PANCREAS	1.430E-16	6.568E-14	1.468E-13	3.023E-18-1.000E+00	1.956E-12	3.174E-12
SPLEEN	1.627E-16	7.480E-14	1.672E-13	3.443E-18-1.000E+00	1.921E-12	3.054E-12
THYMUS	1.816E-16	8.335E-14	1.863E-13	3.837E-18-1.000E+00	1.934E-12	2.875E-12
ICRP60ED	2.951E-16	1.955E-13	4.369E-13	9.250E-18-1.000E+00	8.630E-11	1.899E-10
TE-127M						
STOMACH	4.556E-17	5.421E-14	1.115E-12	1.884E-18 8.892E-11	2.302E-10	2.115E-10
SMALL IN	3.160E-17	3.696E-14	7.599E-13	1.285E-18 1.832E-10	3.690E-10	4.338E-10
LUNGS	6.243E-17	7.515E-14	1.545E-12	2.612E-18 1.799E-09	3.337E-08	9.597E-11
RED MARR	2.629E-17	2.981E-14	6.130E-13	1.036E-18 2.769E-10	5.309E-09	5.373E-09
THYROID	1.233E-16	1.520E-13	3.126E-12	5.284E-18-1.000E+00	9.635E-11	9.411E-11
LOWER LI	4.042E-17	4.780E-14	9.828E-13	1.661E-18 2.309E-09	5.719E-09	1.109E-08
BONE SUR	1.071E-16	1.296E-13	2.665E-12	4.505E-18-1.000E+00	2.055E-08	2.086E-08
BREAST	3.040E-16	3.794E-13	7.802E-12	1.319E-17-1.000E+00	1.097E-10	9.733E-11
TESTES	1.876E-16	2.331E-13	4.793E-12	8.102E-18-1.000E+00	9.225E-11	9.303E-11
OVARIES	4.505E-17	5.396E-14	1.109E-12	1.876E-18-1.000E+00	1.100E-10	1.248E-10
EDEWBODY	1.319E-16	1.636E-13	3.364E-12	5.687E-18-1.000E+00	5.801E-09	2.224E-09
THYROIDH	1.233E-16	1.520E-13	3.126E-12	5.284E-18 1.337E-11	9.635E-11	9.411E-11
ADRENALS	4.933E-17	5.864E-14	1.206E-12	2.038E-18-1.000E+00	1.083E-10	9.734E-11
BLAD WAL	6.183E-17	7.515E-14	1.545E-12	2.612E-18-1.000E+00	9.431E-11	9.662E-11
KIDNEYS	9.935E-17	1.237E-13	2.543E-12	4.299E-18-1.000E+00	9.721E-11	9.509E-11
LIVER	4.616E-17	5.519E-14	1.135E-12	1.918E-18-1.000E+00	1.128E-10	9.482E-11
PANCREAS	3.160E-17	3.696E-14	7.599E-13	1.285E-18-1.000E+00	1.081E-10	9.583E-11
SPLEEN	4.085E-17	4.829E-14	9.930E-13	1.679E-18-1.000E+00	1.112E-10	9.534E-11
THYMUS	6.834E-17	8.328E-14	1.712E-12	2.895E-18-1.000E+00	1.168E-10	9.338E-11
ICRP60ED	8.656E-17	1.013E-13	2.083E-12	3.689E-18-1.000E+00	5.357E-09	1.735E-09
TE-129						
STOMACH	1.841E-15	2.261E-13	2.281E-13	3.785E-17 1.553E-11	1.553E-11	3.970E-10
SMALL IN	1.653E-15	2.026E-13	2.043E-13	3.391E-17 1.083E-11	1.083E-11	2.730E-10
LUNGS	2.004E-15	2.476E-13	2.497E-13	4.145E-17 1.526E-10	1.526E-10	4.910E-13
RED MARR	2.038E-15	2.502E-13	2.523E-13	4.188E-17 6.131E-13	6.131E-13	7.610E-13
THYROID	2.526E-15	3.136E-13	3.163E-13	5.250E-17-1.000E+00	5.088E-13	3.350E-13
LOWER LI	1.799E-15	2.215E-13	2.234E-13	3.708E-17 1.838E-12	1.839E-12	3.700E-11
BONE SUR	2.372E-15	2.947E-13	2.972E-13	4.933E-17-1.000E+00	7.058E-13	5.990E-13
BREAST	2.604E-15	3.336E-13	3.364E-13	5.584E-17-1.000E+00	5.381E-13	6.050E-13
TESTES	2.732E-15	3.423E-13	3.452E-13	5.730E-17-1.000E+00	4.522E-13	3.750E-13
OVARIES	1.781E-15	2.190E-13	2.208E-13	3.666E-17-1.000E+00	5.052E-13	1.580E-12
EDEWBODY	2.330E-15	2.901E-13	2.926E-13	4.856E-17-1.000E+00	2.085E-11	5.430E-11
THYROIDH	2.526E-15	3.136E-13	3.163E-13	5.250E-17 5.088E-13	5.088E-13	3.350E-13
ADRENALS	1.978E-15	2.435E-13	2.456E-13	4.077E-17-1.000E+00	5.971E-13	6.070E-13
BLAD WAL	1.884E-15	2.323E-13	2.343E-13	3.888E-17-1.000E+00	4.668E-13	6.700E-13
KIDNEYS	1.970E-15	2.446E-13	2.466E-13	4.094E-17-1.000E+00	5.242E-13	8.830E-13
LIVER	1.867E-15	2.292E-13	2.312E-13	3.837E-17-1.000E+00	6.032E-13	6.800E-13
PANCREAS	1.610E-15	1.970E-13	1.987E-13	3.297E-17-1.000E+00	6.573E-13	1.910E-12
SPLEEN	1.824E-15	2.241E-13	2.260E-13	3.751E-17-1.000E+00	6.088E-13	1.200E-12
THYMUS	2.055E-15	2.533E-13	2.554E-13	4.239E-17-1.000E+00	6.639E-13	3.590E-13
ICRP60ED	2.399E-15	5.812E-13	5.861E-13	1.001E-16-1.000E+00	2.146E-11	7.166E-11
TE-129M						
STOMACH	1.156E-15	6.760E-13	1.326E-11	2.355E-17 2.603E-10	4.813E-10	6.262E-10
SMALL IN	1.036E-15	6.022E-13	1.182E-11	2.098E-17 5.055E-10	7.966E-10	1.470E-09
LUNGS	1.259E-15	7.423E-13	1.457E-11	2.586E-17 3.516E-09	4.028E-08	1.588E-10
RED MARR	1.259E-15	7.251E-13	1.423E-11	2.526E-17 4.854E-10	3.038E-09	3.432E-09
THYROID	1.619E-15	9.758E-13	1.915E-11	3.400E-17-1.000E+00	1.555E-10	1.566E-10
LOWER LI	1.130E-15	6.588E-13	1.293E-11	2.295E-17 4.897E-09	1.100E-08	2.464E-08
BONE SUR	1.439E-15	8.652E-13	1.698E-11	3.015E-17-1.000E+00	7.149E-09	8.103E-09
BREAST	1.687E-15	1.106E-12	2.170E-11	3.854E-17-1.000E+00	1.684E-10	1.657E-10
TESTES	1.756E-15	1.086E-12	2.132E-11	3.785E-17-1.000E+00	1.390E-10	1.604E-10
OVARIES	1.139E-15	6.661E-13	1.307E-11	2.321E-17-1.000E+00	1.783E-10	2.405E-10
EDEWBODY	1.473E-15	8.972E-13	1.760E-11	3.126E-17-1.000E+00	6.466E-09	2.885E-09
THYROIDH	1.619E-15	9.758E-13	1.915E-11	3.400E-17 3.040E-11	1.555E-10	1.566E-10
ADRENALS	1.225E-15	7.178E-13	1.408E-11	2.501E-17-1.000E+00	1.853E-10	1.681E-10

BLAD WAL	1.190E-15	7.030E-13	1.379E-11	2.449E-17	-1.000E+00	1.463E-10	1.748E-10
KIDNEYS	1.268E-15	7.669E-13	1.505E-11	2.672E-17	-1.000E+00	1.577E-10	1.655E-10
LIVER	1.173E-15	6.833E-13	1.341E-11	2.381E-17	-1.000E+00	1.826E-10	1.617E-10
PANCREAS	1.002E-15	5.826E-13	1.143E-11	2.030E-17	-1.000E+00	1.849E-10	1.651E-10
SPLEEN	1.130E-15	6.612E-13	1.297E-11	2.304E-17	-1.000E+00	1.795E-10	1.625E-10
THYMUS	1.310E-15	7.767E-13	1.524E-11	2.706E-17	-1.000E+00	2.020E-10	1.558E-10
ICRP60ED	1.454E-15	1.434E-12	2.813E-11	5.172E-17	-1.000E+00	6.264E-09	2.566E-09
TE-131M							
STOMACH	5.181E-14	2.749E-11	1.602E-10	9.849E-16	2.208E-10	2.758E-10	6.627E-10
SMALL IN	4.736E-14	2.508E-11	1.462E-10	8.993E-16	3.920E-10	4.928E-10	1.600E-09
LUNGS	5.601E-14	2.966E-11	1.729E-10	1.062E-15	1.203E-09	2.231E-09	6.208E-11
RED MARR	5.670E-14	2.988E-11	1.742E-10	1.071E-15	9.441E-11	1.386E-10	2.393E-10
THYROID	7.048E-14	3.737E-11	2.178E-10	1.336E-15	-1.000E+00	3.280E-08	3.908E-08
LOWER LI	5.104E-14	2.701E-11	1.574E-10	9.678E-16	1.333E-09	2.367E-09	8.102E-09
BONE SUR	6.261E-14	3.346E-11	1.951E-10	1.190E-15	-1.000E+00	2.608E-10	3.698E-10
BREAST	6.783E-14	3.629E-11	2.116E-10	1.293E-15	-1.000E+00	9.204E-11	1.342E-10
TESTES	7.434E-14	3.951E-11	2.303E-10	1.413E-15	-1.000E+00	4.542E-11	9.816E-11
OVARIES	5.036E-14	2.651E-11	1.545E-10	9.506E-16	-1.000E+00	2.335E-10	7.370E-10
EDEWBODY	6.346E-14	3.377E-11	1.969E-10	1.208E-15	-1.000E+00	1.634E-09	2.355E-09
THYROIDH	7.048E-14	3.737E-11	2.178E-10	1.336E-15	6.429E-09	3.280E-08	3.908E-08
ADRENALS	5.438E-14	2.873E-11	1.675E-10	1.028E-15	-1.000E+00	1.085E-10	1.014E-10
BLAD WAL	5.276E-14	2.797E-11	1.630E-10	1.002E-15	-1.000E+00	9.054E-11	2.464E-10
KIDNEYS	5.533E-14	2.916E-11	1.700E-10	1.045E-15	-1.000E+00	8.855E-11	1.583E-10
LIVER	5.259E-14	2.774E-11	1.617E-10	9.935E-16	-1.000E+00	1.139E-10	1.241E-10
PANCREAS	4.531E-14	2.390E-11	1.393E-10	8.564E-16	-1.000E+00	1.266E-10	1.655E-10
SPLEEN	5.096E-14	2.703E-11	1.575E-10	9.678E-16	-1.000E+00	1.109E-10	1.336E-10
THYMUS	5.867E-14	3.110E-11	1.812E-10	1.13E-15	-1.000E+00	1.506E-10	6.773E-11
ICRP60ED	5.777E-14	2.908E-11	1.697E-10	1.099E-15	-1.000E+00	2.246E-09	2.981E-09
TE-132							
STOMACH	6.963E-15	4.310E-12	4.876E-11	1.550E-16	2.302E-10	4.076E-10	4.855E-10
SMALL IN	6.141E-15	3.786E-12	4.283E-11	1.362E-16	3.127E-10	5.081E-10	7.662E-10
LUNGS	7.699E-15	4.786E-12	5.414E-11	1.721E-16	5.309E-10	1.641E-09	2.937E-10
RED MARR	7.631E-15	4.667E-12	5.280E-11	1.679E-16	2.500E-10	3.951E-10	4.064E-10
THYROID	1.019E-14	6.405E-12	7.246E-11	2.304E-16	-1.000E+00	5.284E-08	4.695E-08
LOWER LI	6.843E-15	4.215E-12	4.768E-11	1.516E-16	8.207E-10	1.574E-09	3.764E-09
BONE SUR	1.071E-14	6.715E-12	7.596E-11	2.415E-16	-1.000E+00	7.249E-10	8.537E-10
BREAST	1.156E-14	7.453E-12	8.431E-11	2.681E-16	-1.000E+00	3.312E-10	3.126E-10
TESTES	1.079E-14	6.834E-12	7.731E-11	2.458E-16	-1.000E+00	3.374E-10	3.256E-10
OVARIES	6.261E-15	3.881E-12	4.391E-11	1.396E-16	-1.000E+00	3.866E-10	5.058E-10
EDEWBODY	9.335E-15	5.858E-12	6.627E-11	2.107E-16	-1.000E+00	2.229E-09	2.132E-09
THYROIDH	1.019E-14	6.405E-12	7.246E-11	2.304E-16	2.263E-08	5.284E-08	4.695E-08
ADRENALS	7.734E-15	4.786E-12	5.414E-11	1.721E-16	-1.000E+00	4.021E-10	3.638E-10
BLAD WAL	7.126E-15	4.429E-12	5.010E-11	1.593E-16	-1.000E+00	3.681E-10	3.820E-10
KIDNEYS	7.417E-15	4.667E-12	5.280E-11	1.679E-16	-1.000E+00	3.464E-10	3.333E-10
LIVER	7.057E-15	4.381E-12	4.957E-11	1.576E-16	-1.000E+00	3.620E-10	3.278E-10
PANCREAS	6.012E-15	3.691E-12	4.175E-11	1.327E-16	-1.000E+00	3.591E-10	3.327E-10
SPLEEN	6.989E-15	4.310E-12	4.876E-11	1.550E-16	-1.000E+00	3.584E-10	3.273E-10
THYMUS	8.050E-15	5.024E-12	5.684E-11	1.807E-16	-1.000E+00	3.908E-10	3.308E-10
ICRP60ED	8.000E-15	4.667E-12	5.280E-11	1.791E-16	-1.000E+00	3.255E-09	3.001E-09
I-131							
STOMACH	1.293E-14	7.732E-12	1.237E-10	2.723E-16	5.997E-11	7.516E-11	3.059E-10
SMALL IN	1.156E-14	6.905E-12	1.104E-10	2.432E-16	1.572E-11	2.742E-11	4.471E-11
LUNGS	1.405E-14	8.437E-12	1.349E-10	2.972E-16	4.539E-10	6.565E-10	1.016E-10
RED MARR	1.447E-14	8.680E-12	1.388E-10	3.057E-16	3.518E-11	6.260E-11	9.444E-11
THYROID	1.773E-14	1.065E-11	1.703E-10	3.751E-16	-1.000E+00	2.911E-07	4.753E-07
LOWER LI	1.268E-14	7.586E-12	1.213E-10	2.672E-16	1.465E-11	2.593E-11	4.239E-11
BONE SUR	1.730E-14	1.041E-11	1.664E-10	3.666E-16	-1.000E+00	5.718E-11	8.699E-11
BREAST	1.824E-14	1.101E-11	1.762E-10	3.880E-16	-1.000E+00	7.861E-11	1.209E-10
TESTES	1.901E-14	1.140E-11	1.824E-10	4.017E-16	-1.000E+00	2.322E-11	3.777E-11
OVARIES	1.225E-14	7.343E-12	1.174E-10	2.586E-16	-1.000E+00	2.533E-11	4.067E-11
EDEWBODY	1.636E-14	9.799E-12	1.567E-10	3.451E-16	-1.000E+00	8.872E-09	1.434E-08
THYROIDH	1.773E-14	1.065E-11	1.703E-10	3.751E-16	1.279E-08	9.694E-08	1.583E-07
ADRENALS	1.405E-14	8.437E-12	1.349E-10	2.972E-16	-1.000E+00	4.289E-11	5.616E-11
BLAD WAL	1.310E-14	7.878E-12	1.260E-10	2.775E-16	-1.000E+00	2.516E-11	4.084E-11
KIDNEYS	1.362E-14	8.170E-12	1.307E-10	2.878E-16	-1.000E+00	3.014E-11	4.507E-11
LIVER	1.302E-14	7.829E-12	1.252E-10	2.758E-16	-1.000E+00	3.871E-11	4.948E-11
PANCREAS	1.130E-14	6.759E-12	1.081E-10	2.381E-16	-1.000E+00	4.041E-11	5.964E-11

SPLEEN	1.285E-14	7.708E-12	1.233E-10	2.715E-16-1.000E+00	3.882E-11	5.528E-11
THYMUS	1.439E-14	8.607E-12	1.377E-10	3.032E-16-1.000E+00	2.036E-10	3.088E-10
ICRP60ED	1.459E-14	8.188E-12	1.310E-10	3.083E-16-1.000E+00	1.468E-08	2.387E-08
I-132						
STOMACH	8.299E-14	1.732E-11	1.903E-11	1.593E-15	9.896E-11	9.896E-11
SMALL IN	7.545E-14	1.574E-11	1.729E-11	1.447E-15	1.245E-11	1.245E-11
LUNGS	8.993E-14	1.872E-11	2.056E-11	1.721E-15	2.702E-10	2.703E-10
RED MARR	9.078E-14	1.909E-11	2.097E-11	1.756E-15	1.401E-11	1.401E-11
THYROID	1.122E-13	2.356E-11	2.588E-11	2.167E-15-1.000E+00	1.726E-09	3.842E-09
LOWER LI	8.153E-14	1.704E-11	1.872E-11	1.567E-15	1.126E-11	1.127E-11
BONE SUR	9.935E-14	2.086E-11	2.292E-11	1.918E-15-1.000E+00	1.242E-11	2.190E-11
BREAST	1.079E-13	2.254E-11	2.476E-11	2.073E-15-1.000E+00	1.412E-11	2.511E-11
TESTES	1.190E-13	2.486E-11	2.732E-11	2.287E-15-1.000E+00	9.901E-12	2.220E-11
OVARIES	8.119E-14	1.695E-11	1.862E-11	1.559E-15-1.000E+00	9.960E-12	2.340E-11
EDEWBODY	1.011E-13	2.123E-11	2.333E-11	1.953E-15-1.000E+00	1.026E-10	1.814E-10
THYROIDH	1.122E-13	2.356E-11	2.588E-11	2.167E-15	1.721E-09	1.726E-09
ADRENALS	8.736E-14	1.825E-11	2.005E-11	1.679E-15-1.000E+00	1.973E-11	3.210E-11
BLAD WAL	8.453E-14	1.769E-11	1.944E-11	1.627E-15-1.000E+00	1.066E-11	2.440E-11
KIDNEYS	8.821E-14	1.844E-11	2.026E-11	1.696E-15-1.000E+00	1.452E-11	3.240E-11
LIVER	8.402E-14	1.760E-11	1.934E-11	1.619E-15-1.000E+00	1.837E-11	2.830E-11
PANCREAS	7.254E-14	1.518E-11	1.668E-11	1.396E-15-1.000E+00	2.531E-11	7.720E-11
SPLEEN	8.153E-14	1.704E-11	1.872E-11	1.567E-15-1.000E+00	2.088E-11	5.290E-11
THYMUS	9.335E-14	1.956E-11	2.148E-11	1.799E-15-1.000E+00	2.360E-11	2.511E-11
ICRP60ED	9.259E-14	1.855E-11	2.037E-11	1.824E-15-1.000E+00	1.400E-10	2.896E-10
I-133						
STOMACH	2.124E-14	1.076E-11	4.581E-11	4.256E-16	1.023E-10	1.046E-10
SMALL IN	1.910E-14	9.700E-12	4.130E-11	3.837E-16	2.006E-11	2.150E-11
LUNGS	2.304E-14	1.167E-11	4.968E-11	4.616E-16	7.085E-10	8.162E-10
RED MARR	2.347E-14	1.193E-11	5.079E-11	4.719E-16	2.454E-11	2.717E-11
THYROID	2.869E-14	1.455E-11	6.194E-11	5.755E-16-1.000E+00	4.855E-08	9.102E-08
LOWER LI	2.073E-14	1.052E-11	4.480E-11	4.162E-16	1.910E-11	2.049E-11
BONE SUR	2.638E-14	1.342E-11	5.715E-11	5.310E-16-1.000E+00	2.518E-11	4.080E-11
BREAST	2.826E-14	1.435E-11	6.111E-11	5.678E-16-1.000E+00	2.931E-11	4.688E-11
TESTES	3.075E-14	1.561E-11	6.646E-11	6.175E-16-1.000E+00	1.947E-11	3.632E-11
OVARIES	2.073E-14	1.050E-11	4.471E-11	4.154E-16-1.000E+00	1.934E-11	3.573E-11
EDEWBODY	2.621E-14	1.332E-11	5.669E-11	5.267E-16-1.000E+00	1.583E-09	2.800E-09
THYROIDH	2.869E-14	1.455E-11	6.194E-11	5.755E-16	2.389E-08	4.855E-08
ADRENALS	2.261E-14	1.148E-11	4.885E-11	4.539E-16-1.000E+00	3.133E-11	4.368E-11
BLAD WAL	2.158E-14	1.096E-11	4.664E-11	4.334E-16-1.000E+00	1.983E-11	3.685E-11
KIDNEYS	2.252E-14	1.141E-11	4.858E-11	4.513E-16-1.000E+00	2.373E-11	4.011E-11
LIVER	2.150E-14	1.091E-11	4.646E-11	4.316E-16-1.000E+00	2.899E-11	3.922E-11
PANCREAS	1.850E-14	9.397E-12	4.000E-11	3.717E-16-1.000E+00	3.212E-11	5.577E-11
SPLEEN	2.098E-14	1.063E-11	4.526E-11	4.205E-16-1.000E+00	2.930E-11	4.781E-11
THYMUS	2.364E-14	1.197E-11	5.097E-11	4.736E-16-1.000E+00	5.205E-11	7.159E-11
ICRP60ED	2.393E-14	1.219E-11	5.191E-11	5.136E-16-1.000E+00	2.556E-09	4.653E-09
I-134						
STOMACH	9.678E-14	8.213E-12	8.228E-12	1.807E-15	7.081E-11	7.081E-11
SMALL IN	8.821E-14	7.513E-12	7.526E-12	1.653E-15	5.521E-12	5.521E-12
LUNGS	1.045E-13	8.875E-12	8.891E-12	1.953E-15	1.429E-10	1.429E-10
RED MARR	1.053E-13	8.992E-12	9.008E-12	1.978E-15	6.067E-12	6.067E-12
THYROID	1.310E-13	1.113E-11	1.115E-11	2.449E-15-1.000E+00	2.848E-10	6.160E-10
LOWER LI	9.506E-14	8.096E-12	8.111E-12	1.781E-15	4.800E-12	4.800E-12
BONE SUR	1.148E-13	9.770E-12	9.788E-12	2.150E-15-1.000E+00	5.296E-12	9.290E-12
BREAST	1.242E-13	1.059E-11	1.061E-11	2.330E-15-1.000E+00	6.152E-12	1.160E-11
TESTES	1.379E-13	1.176E-11	1.178E-11	2.586E-15-1.000E+00	4.001E-12	8.860E-12
OVARIES	9.421E-14	8.019E-12	8.033E-12	1.764E-15-1.000E+00	4.234E-12	1.100E-11
EDEWBODY	1.173E-13	1.000E-11	1.002E-11	2.201E-15-1.000E+00	3.548E-11	6.630E-11
THYROIDH	1.310E-13	1.113E-11	1.115E-11	2.449E-15	2.848E-10	2.848E-10
ADRENALS	1.011E-13	8.602E-12	8.618E-12	1.893E-15-1.000E+00	8.761E-12	1.580E-11
BLAD WAL	9.849E-14	8.369E-12	8.384E-12	1.841E-15-1.000E+00	4.494E-12	1.040E-11
KIDNEYS	1.028E-13	8.758E-12	8.774E-12	1.927E-15-1.000E+00	6.626E-12	1.750E-11
LIVER	9.763E-14	8.330E-12	8.345E-12	1.833E-15-1.000E+00	8.358E-12	1.400E-11
PANCREAS	8.453E-14	7.201E-12	7.214E-12	1.584E-15-1.000E+00	1.302E-11	5.400E-11
SPLEEN	9.506E-14	8.057E-12	8.072E-12	1.773E-15-1.000E+00	1.032E-11	3.430E-11
THYMUS	1.096E-13	9.303E-12	9.320E-12	2.047E-15-1.000E+00	1.044E-11	9.910E-12
ICRP60ED	1.077E-13	8.829E-12	8.845E-12	2.077E-15-1.000E+00	4.396E-11	1.067E-10
I-135						

STOMACH	6.093E-14	2.075E-11	3.659E-11	1.066E-15	9.819E-11	9.855E-11	5.403E-10
SMALL IN	5.684E-14	1.932E-11	3.407E-11	9.925E-16	1.878E-11	1.899E-11	4.108E-11
LUNGS	6.593E-14	2.250E-11	3.967E-11	1.156E-15	4.291E-10	4.396E-10	3.737E-11
RED MARR	6.667E-14	2.268E-11	4.000E-11	1.165E-15	2.194E-11	2.231E-11	3.638E-11
THYROID	8.161E-14	2.774E-11	4.893E-11	1.425E-15	-1.000E+00	8.435E-09	1.778E-08
LOWER LI	6.054E-14	2.056E-11	3.626E-11	1.056E-15	1.765E-11	1.784E-11	3.937E-11
BONE SUR	7.096E-14	2.416E-11	4.261E-11	1.241E-15	-1.000E+00	1.997E-11	3.342E-11
BREAST	7.827E-14	2.658E-11	4.688E-11	1.366E-15	-1.000E+00	2.334E-11	3.844E-11
TESTES	8.657E-14	2.951E-11	5.204E-11	1.516E-15	-1.000E+00	1.521E-11	3.213E-11
OVARIES	5.883E-14	2.006E-11	3.537E-11	1.030E-15	-1.000E+00	1.699E-11	3.616E-11
EDEWBODY	7.391E-14	2.514E-11	4.434E-11	1.292E-15	-1.000E+00	3.308E-10	6.041E-10
THYROIDH	8.161E-14	2.774E-11	4.893E-11	1.425E-15	7.172E-09	8.435E-09	1.778E-08
ADRENALS	6.265E-14	2.131E-11	3.759E-11	1.095E-15	-1.000E+00	3.019E-11	4.824E-11
BLAD WAL	6.236E-14	2.127E-11	3.750E-11	1.092E-15	-1.000E+00	1.688E-11	3.535E-11
KIDNEYS	6.569E-14	2.231E-11	3.934E-11	1.146E-15	-1.000E+00	2.161E-11	4.083E-11
LIVER	6.225E-14	2.110E-11	3.720E-11	1.084E-15	-1.000E+00	2.763E-11	3.818E-11
PANCREAS	5.396E-14	1.830E-11	3.227E-11	9.399E-16	-1.000E+00	3.329E-11	7.571E-11
SPLEEN	6.014E-14	2.041E-11	3.598E-11	1.048E-15	-1.000E+00	2.816E-11	5.546E-11
THYMUS	6.881E-14	2.335E-11	4.118E-11	1.199E-15	-1.000E+00	4.388E-11	5.120E-11
ICRP60ED	6.774E-14	2.213E-11	3.902E-11	1.213E-15	-1.000E+00	5.015E-10	9.852E-10
XE-133							
STOMACH	9.421E-16	0.000E+00	0.000E+00	0.000E+00	1.312E-13	1.451E-13	0.000E+00
SMALL IN	7.973E-16	0.000E+00	0.000E+00	0.000E+00	1.368E-13	1.498E-13	0.000E+00
LUNGS	1.113E-15	0.000E+00	0.000E+00	0.000E+00	3.508E-13	3.716E-13	0.000E+00
RED MARR	7.271E-16	0.000E+00	0.000E+00	0.000E+00	1.558E-13	1.686E-13	0.000E+00
THYROID	1.721E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.381E-13	0.000E+00
LOWER LI	8.650E-16	0.000E+00	0.000E+00	0.000E+00	1.357E-13	1.486E-13	0.000E+00
BONE SUR	1.970E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.616E-13	0.000E+00
BREAST	2.252E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.415E-13	0.000E+00
TESTES	1.816E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.392E-13	0.000E+00
OVARIES	8.342E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.464E-13	0.000E+00
EDEWBODY	1.490E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.762E-13	0.000E+00
THYROIDH	1.721E-15	0.000E+00	0.000E+00	0.000E+00	1.212E-13	1.381E-13	0.000E+00
ADRENALS	9.678E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.426E-13	0.000E+00
BLAD WAL	1.028E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.464E-13	0.000E+00
KIDNEYS	1.122E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.439E-13	0.000E+00
LIVER	9.935E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.473E-13	0.000E+00
PANCREAS	6.954E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.486E-13	0.000E+00
SPLEEN	9.249E-16	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.462E-13	0.000E+00
THYMUS	1.310E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.461E-13	0.000E+00
ICRP60ED	1.190E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.750E-13	0.000E+00
XE-135							
STOMACH	8.222E-15	0.000E+00	0.000E+00	0.000E+00	2.546E-13	2.575E-13	0.000E+00
SMALL IN	7.305E-15	0.000E+00	0.000E+00	0.000E+00	2.560E-13	2.586E-13	0.000E+00
LUNGS	8.993E-15	0.000E+00	0.000E+00	0.000E+00	7.645E-13	7.685E-13	0.000E+00
RED MARR	9.164E-15	0.000E+00	0.000E+00	0.000E+00	2.532E-13	2.554E-13	0.000E+00
THYROID	1.165E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.341E-13	0.000E+00
LOWER LI	8.093E-15	0.000E+00	0.000E+00	0.000E+00	2.479E-13	2.504E-13	0.000E+00
BONE SUR	1.199E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.473E-13	0.000E+00
BREAST	1.250E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.392E-13	0.000E+00
TESTES	1.225E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.321E-13	0.000E+00
OVARIES	7.502E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.525E-13	0.000E+00
EDEWBODY	1.071E-14	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.151E-13	0.000E+00
THYROIDH	1.165E-14	0.000E+00	0.000E+00	0.000E+00	2.308E-13	2.341E-13	0.000E+00
ADRENALS	9.078E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.605E-13	0.000E+00
BLAD WAL	8.359E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.514E-13	0.000E+00
KIDNEYS	8.650E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.514E-13	0.000E+00
LIVER	8.325E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.503E-13	0.000E+00
PANCREAS	7.168E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.655E-13	0.000E+00
SPLEEN	8.247E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.544E-13	0.000E+00
THYMUS	9.335E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.716E-13	0.000E+00
ICRP60ED	9.473E-15	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.123E-13	0.000E+00
CS-134							
STOMACH	5.575E-14	3.157E-11	6.609E-10	1.096E-15	3.461E-10	1.251E-08	2.008E-08
SMALL IN	5.044E-14	2.861E-11	5.989E-10	9.935E-16	3.382E-10	1.372E-08	2.178E-08
LUNGS	6.029E-14	3.428E-11	7.177E-10	1.190E-15	8.600E-10	1.173E-08	1.746E-08
RED MARR	6.141E-14	3.477E-11	7.280E-10	1.208E-15	9.057E-10	1.178E-08	1.868E-08

THYROID	7.562E-14	4.291E-11	8.984E-10	1.490E-15	-1.000E+00	1.113E-08	1.764E-08
LOWER LI	5.464E-14	3.107E-11	6.505E-10	1.079E-15	3.349E-10	1.372E-08	2.177E-08
BONE SUR	6.774E-14	3.847E-11	8.054E-10	1.336E-15	-1.000E+00	1.091E-08	1.731E-08
BREAST	7.280E-14	4.118E-11	8.622E-10	1.430E-15	-1.000E+00	1.082E-08	1.714E-08
TESTES	8.025E-14	4.562E-11	9.552E-10	1.584E-15	-1.000E+00	1.296E-08	2.058E-08
OVARIES	5.464E-14	3.107E-11	6.505E-10	1.079E-15	-1.000E+00	1.133E-08	1.798E-08
EDEWBODY	6.834E-14	3.872E-11	8.106E-10	1.345E-15	-1.000E+00	1.253E-08	1.975E-08
THYROIDH	7.562E-14	4.291E-11	8.984E-10	1.490E-15	4.736E-10	1.113E-08	1.764E-08
ADRENALS	5.909E-14	3.354E-11	7.022E-10	1.165E-15	-1.000E+00	1.463E-08	2.318E-08
BLAD WAL	5.678E-14	3.206E-11	6.712E-10	1.113E-15	-1.000E+00	1.351E-08	2.144E-08
KIDNEYS	5.918E-14	3.354E-11	7.022E-10	1.165E-15	-1.000E+00	1.265E-08	2.007E-08
LIVER	5.635E-14	3.206E-11	6.712E-10	1.113E-15	-1.000E+00	1.267E-08	2.007E-08
PANCREAS	4.865E-14	2.762E-11	5.783E-10	9.592E-16	-1.000E+00	1.225E-08	1.943E-08
SPLEEN	5.481E-14	3.107E-11	6.505E-10	1.079E-15	-1.000E+00	1.267E-08	2.009E-08
THYMUS	6.269E-14	3.551E-11	7.435E-10	1.233E-15	-1.000E+00	1.073E-08	1.694E-08
ICRP60ED	6.218E-14	3.299E-11	6.908E-10	1.227E-15	-1.000E+00	1.217E-08	1.920E-08
CS-136							
STOMACH	7.845E-14	4.254E-11	7.532E-10	1.490E-15	3.756E-10	1.965E-09	3.384E-09
SMALL IN	7.160E-14	3.887E-11	6.883E-10	1.362E-15	3.663E-10	2.114E-09	3.408E-09
LUNGS	8.487E-14	4.596E-11	8.138E-10	1.610E-15	6.540E-10	2.311E-09	2.617E-09
RED MARR	8.564E-14	4.645E-11	8.225E-10	1.627E-15	7.018E-10	1.855E-09	2.952E-09
THYROID	1.071E-13	5.819E-11	1.030E-09	2.038E-15	-1.000E+00	1.723E-09	2.736E-09
LOWER LI	7.725E-14	4.181E-11	7.402E-10	1.465E-15	3.617E-10	2.108E-09	3.404E-09
BONE SUR	9.506E-14	5.183E-11	9.177E-10	1.816E-15	-1.000E+00	1.691E-09	2.697E-09
BREAST	1.028E-13	5.599E-11	9.913E-10	1.961E-15	-1.000E+00	1.658E-09	2.636E-09
TESTES	1.122E-13	6.112E-11	1.082E-09	2.141E-15	-1.000E+00	1.881E-09	3.034E-09
OVARIES	7.639E-14	4.132E-11	7.316E-10	1.447E-15	-1.000E+00	1.673E-09	2.699E-09
EDEWBODY	9.592E-14	5.232E-11	9.263E-10	1.833E-15	-1.000E+00	1.990E-09	3.062E-09
THYROIDH	1.071E-13	5.819E-11	1.030E-09	2.038E-15	3.585E-10	1.723E-09	2.736E-09
ADRENALS	8.247E-14	4.474E-11	7.922E-10	1.567E-15	-1.000E+00	2.196E-09	3.471E-09
BLAD WAL	7.999E-14	4.327E-11	7.662E-10	1.516E-15	-1.000E+00	2.148E-09	3.464E-09
KIDNEYS	8.367E-14	4.548E-11	8.051E-10	1.593E-15	-1.000E+00	1.971E-09	3.156E-09
LIVER	7.956E-14	4.303E-11	7.619E-10	1.507E-15	-1.000E+00	1.998E-09	3.151E-09
PANCREAS	6.860E-14	3.716E-11	6.580E-10	1.302E-15	-1.000E+00	1.928E-09	3.084E-09
SPLEEN	7.716E-14	4.181E-11	7.402E-10	1.465E-15	-1.000E+00	1.973E-09	3.139E-09
THYMUS	8.907E-14	4.841E-11	8.571E-10	1.696E-15	-1.000E+00	1.729E-09	2.654E-09
ICRP60ED	8.739E-14	4.425E-11	7.835E-10	1.661E-15	-1.000E+00	1.934E-09	2.992E-09
CS-137							
STOMACH	2.009E-14	1.146E-11	2.424E-10	4.010E-16	2.251E-10	8.606E-09	1.390E-08
SMALL IN	1.815E-14	1.033E-11	2.184E-10	3.613E-16	1.956E-10	9.043E-09	1.436E-08
LUNGS	2.171E-14	1.241E-11	2.625E-10	4.343E-16	8.287E-10	8.799E-09	1.266E-08
RED MARR	2.220E-14	1.264E-11	2.674E-10	4.424E-16	5.625E-10	8.295E-09	1.316E-08
THYROID	2.730E-14	1.556E-11	3.291E-10	5.444E-16	-1.000E+00	7.919E-09	1.257E-08
LOWER LI	1.969E-14	1.121E-11	2.370E-10	3.921E-16	1.953E-10	9.063E-09	1.439E-08
BONE SUR	2.463E-14	1.403E-11	2.968E-10	4.910E-16	-1.000E+00	7.933E-09	1.258E-08
BREAST	2.641E-14	1.510E-11	3.193E-10	5.282E-16	-1.000E+00	7.823E-09	1.240E-08
TESTES	2.900E-14	1.658E-11	3.506E-10	5.801E-16	-1.000E+00	8.758E-09	1.390E-08
OVARIES	1.969E-14	1.125E-11	2.380E-10	3.938E-16	-1.000E+00	8.107E-09	1.286E-08
EDEWBODY	2.471E-14	1.410E-11	2.982E-10	4.934E-16	-1.000E+00	8.628E-09	1.355E-08
THYROIDH	2.730E-14	1.556E-11	3.291E-10	5.444E-16	2.960E-10	7.919E-09	1.257E-08
ADRENALS	2.139E-14	1.218E-11	2.576E-10	4.262E-16	-1.000E+00	9.444E-09	1.498E-08
BLAD WAL	2.042E-14	1.167E-11	2.468E-10	4.083E-16	-1.000E+00	8.888E-09	1.410E-08
KIDNEYS	2.131E-14	1.218E-11	2.576E-10	4.262E-16	-1.000E+00	8.596E-09	1.363E-08
LIVER	2.034E-14	1.158E-11	2.449E-10	4.051E-16	-1.000E+00	8.592E-09	1.362E-08
PANCREAS	1.750E-14	9.979E-12	2.111E-10	3.492E-16	-1.000E+00	8.424E-09	1.336E-08
SPLEEN	1.977E-14	1.128E-11	2.385E-10	3.946E-16	-1.000E+00	8.619E-09	1.367E-08
THYMUS	2.252E-14	1.285E-11	2.718E-10	4.497E-16	-1.000E+00	7.815E-09	1.237E-08
ICRP60ED	2.103E-14	1.226E-11	2.593E-10	4.289E-16	-1.000E+00	8.492E-09	1.334E-08
BA-139							
STOMACH	1.156E-15	1.734E-13	1.766E-13	2.467E-17	9.184E-11	9.184E-11	6.880E-10
SMALL IN	1.028E-15	1.529E-13	1.557E-13	2.175E-17	7.425E-11	7.425E-11	5.560E-10
LUNGS	1.276E-15	1.921E-13	1.956E-13	2.732E-17	2.529E-10	2.529E-10	4.450E-13
RED MARR	1.225E-15	1.830E-13	1.864E-13	2.604E-17	4.351E-12	4.351E-12	9.610E-13
THYROID	1.704E-15	2.583E-13	2.630E-13	3.674E-17	-1.000E+00	2.905E-12	3.210E-13
LOWER LI	1.139E-15	1.704E-13	1.735E-13	2.424E-17	1.573E-11	1.573E-11	1.000E-10
BONE SUR	1.824E-15	2.770E-13	2.820E-13	3.940E-17	-1.000E+00	4.354E-12	6.400E-13
BREAST	1.884E-15	2.890E-13	2.943E-13	4.111E-17	-1.000E+00	2.947E-12	5.700E-13

TESTES	1.764E-15	2.667E-13	2.716E-13	3.794E-17	-1.000E+00	2.870E-12	3.620E-13
OVARIES	1.036E-15	1.547E-13	1.576E-13	2.201E-17	-1.000E+00	3.054E-12	1.610E-12
EDEWBODY	1.533E-15	2.324E-13	2.367E-13	3.306E-17	-1.000E+00	4.686E-11	1.080E-10
THYROIDH	1.704E-15	2.583E-13	2.630E-13	3.674E-17	2.905E-12	2.905E-12	3.210E-13
ADRENALS	1.268E-15	1.897E-13	1.931E-13	2.698E-17	-1.000E+00	3.028E-12	5.970E-13
BLAD WAL	1.173E-15	1.770E-13	1.802E-13	2.518E-17	-1.000E+00	2.929E-12	6.320E-13
KIDNEYS	1.216E-15	1.830E-13	1.864E-13	2.604E-17	-1.000E+00	2.988E-12	8.510E-13
LIVER	1.173E-15	1.758E-13	1.790E-13	2.501E-17	-1.000E+00	3.037E-12	6.560E-13
PANCREAS	9.935E-16	1.481E-13	1.508E-13	2.107E-17	-1.000E+00	3.168E-12	1.640E-12
SPLEEN	1.165E-15	1.740E-13	1.772E-13	2.475E-17	-1.000E+00	3.086E-12	1.080E-12
THYMUS	1.353E-15	2.041E-13	2.078E-13	2.903E-17	-1.000E+00	3.068E-12	3.430E-13
ICRP60ED	1.915E-15	9.112E-13	9.278E-13	1.314E-16	-1.000E+00	5.061E-11	1.361E-10
BA-140							
STOMACH	6.389E-15	3.813E-12	6.720E-11	1.336E-16	1.416E-10	3.561E-10	5.836E-10
SMALL IN	5.712E-15	3.398E-12	5.987E-11	1.190E-16	2.874E-10	5.526E-10	1.691E-09
LUNGS	6.963E-15	4.155E-12	7.323E-11	1.456E-16	9.303E-10	1.678E-09	6.920E-11
RED MARR	7.083E-15	4.204E-12	7.409E-11	1.473E-16	4.739E-10	1.221E-09	4.219E-10
THYROID	8.736E-15	5.255E-12	9.261E-11	1.841E-16	-1.000E+00	2.721E-10	5.583E-11
LOWER LI	6.243E-15	3.715E-12	6.547E-11	1.302E-16	2.334E-09	4.364E-09	2.630E-08
BONE SUR	8.350E-15	5.011E-12	8.830E-11	1.756E-16	-1.000E+00	2.317E-09	5.331E-10
BREAST	8.907E-15	5.475E-12	9.649E-11	1.918E-16	-1.000E+00	3.023E-10	1.609E-10
TESTES	9.421E-15	5.671E-12	9.993E-11	1.987E-16	-1.000E+00	2.908E-10	1.467E-10
OVARIES	6.158E-15	3.666E-12	6.461E-11	1.285E-16	-1.000E+00	4.480E-10	9.877E-10
EDEWBODY	8.042E-15	4.840E-12	8.529E-11	1.696E-16	-1.000E+00	1.020E-09	2.545E-09
THYROIDH	8.736E-15	5.255E-12	9.261E-11	1.841E-16	6.819E-11	2.721E-10	5.583E-11
ADRENALS	6.886E-15	4.106E-12	7.237E-11	1.439E-16	-1.000E+00	4.133E-10	1.229E-10
BLAD WAL	6.517E-15	3.886E-12	6.849E-11	1.362E-16	-1.000E+00	3.339E-10	3.727E-10
KIDNEYS	6.766E-15	4.058E-12	7.150E-11	1.422E-16	-1.000E+00	3.079E-10	1.529E-10
LIVER	6.475E-15	3.862E-12	6.806E-11	1.353E-16	-1.000E+00	3.033E-10	1.189E-10
PANCREAS	5.558E-15	3.300E-12	5.815E-11	1.156E-16	-1.000E+00	3.324E-10	1.377E-10
SPLEEN	6.329E-15	3.764E-12	6.634E-11	1.319E-16	-1.000E+00	2.967E-10	1.296E-10
THYMUS	7.117E-15	4.253E-12	7.495E-11	1.490E-16	-1.000E+00	3.066E-10	6.250E-11
ICRP60ED	7.323E-15	4.506E-12	7.942E-11	1.677E-16	-1.000E+00	9.136E-10	2.217E-09
LA-140							
STOMACH	8.650E-14	4.032E-11	2.961E-10	1.499E-15	3.570E-10	4.664E-10	1.086E-09
SMALL IN	8.076E-14	3.756E-11	2.758E-10	1.396E-15	7.481E-10	9.753E-10	2.968E-09
LUNGS	9.335E-14	4.355E-11	3.198E-10	1.619E-15	1.958E-09	4.213E-09	4.000E-11
RED MARR	9.506E-14	4.401E-11	3.232E-10	1.636E-15	1.440E-10	2.124E-10	2.816E-10
THYROID	1.148E-13	5.369E-11	3.942E-10	1.995E-15	-1.000E+00	6.865E-11	6.386E-12
LOWER LI	8.564E-14	4.009E-11	2.944E-10	1.490E-15	2.946E-09	5.498E-09	1.750E-08
BONE SUR	1.011E-13	4.724E-11	3.468E-10	1.756E-15	-1.000E+00	1.406E-10	9.757E-11
BREAST	1.113E-13	5.208E-11	3.824E-10	1.936E-15	-1.000E+00	1.453E-10	1.800E-10
TESTES	1.225E-13	5.715E-11	4.196E-10	2.124E-15	-1.000E+00	5.875E-11	1.217E-10
OVARIES	8.282E-14	3.871E-11	2.842E-10	1.439E-15	-1.000E+00	4.534E-10	1.334E-09
EDEWBODY	1.045E-13	4.885E-11	3.587E-10	1.816E-15	-1.000E+00	1.315E-09	2.290E-09
THYROIDH	1.148E-13	5.369E-11	3.942E-10	1.995E-15	3.768E-11	6.865E-11	6.386E-12
ADRENALS	8.821E-14	4.125E-11	3.029E-10	1.533E-15	-1.000E+00	1.928E-10	1.049E-10
BLAD WAL	8.821E-14	4.125E-11	3.029E-10	1.533E-15	-1.000E+00	1.657E-10	4.489E-10
KIDNEYS	9.335E-14	4.332E-11	3.181E-10	1.610E-15	-1.000E+00	1.707E-10	2.225E-10
LIVER	8.821E-14	4.125E-11	3.029E-10	1.533E-15	-1.000E+00	7.637E-10	1.693E-10
PANCREAS	7.665E-14	3.572E-11	2.622E-10	1.327E-15	-1.000E+00	2.371E-10	2.190E-10
SPLEEN	8.530E-14	3.963E-11	2.910E-10	1.473E-15	-1.000E+00	1.713E-10	1.752E-10
THYMUS	9.678E-14	4.516E-11	3.316E-10	1.679E-15	-1.000E+00	2.270E-10	1.746E-11
ICRP60ED	9.620E-14	4.323E-11	3.174E-10	1.718E-15	-1.000E+00	1.227E-09	1.984E-09
LA-141							
STOMACH	1.567E-15	4.111E-13	5.437E-13	2.664E-17	9.818E-11	9.900E-11	9.310E-10
SMALL IN	1.473E-15	3.873E-13	5.122E-13	2.509E-17	1.430E-10	1.445E-10	1.370E-09
LUNGS	1.696E-15	4.454E-13	5.891E-13	2.886E-17	8.303E-10	8.904E-10	2.715E-13
RED MARR	1.713E-15	4.494E-13	5.944E-13	2.912E-17	5.104E-12	6.845E-12	1.073E-12
THYROID	2.098E-15	5.512E-13	7.290E-13	3.571E-17	-1.000E+00	2.447E-12	5.284E-14
LOWER LI	1.567E-15	4.111E-13	5.437E-13	2.664E-17	1.440E-10	1.672E-10	1.448E-09
BONE SUR	1.807E-15	4.745E-13	6.276E-13	3.075E-17	-1.000E+00	2.502E-11	6.220E-13
BREAST	2.004E-15	5.260E-13	6.957E-13	3.409E-17	-1.000E+00	2.669E-12	7.068E-13
TESTES	2.218E-15	5.842E-13	7.727E-13	3.785E-17	-1.000E+00	2.300E-12	3.183E-13
OVARIES	1.516E-15	3.978E-13	5.262E-13	2.578E-17	-1.000E+00	2.896E-12	3.757E-12
EDEWBODY	1.893E-15	4.983E-13	6.590E-13	3.229E-17	-1.000E+00	1.529E-10	3.750E-10
THYROIDH	2.098E-15	5.512E-13	7.290E-13	3.571E-17	2.195E-12	2.447E-12	5.284E-14

ADRENALS	1.602E-15	4.203E-13	5.559E-13	2.723E-17	-1.000E+00	3.076E-12	6.358E-13
BLAD WAL	1.610E-15	4.230E-13	5.594E-13	2.741E-17	-1.000E+00	2.467E-12	1.263E-12
KIDNEYS	1.696E-15	4.454E-13	5.891E-13	2.886E-17	-1.000E+00	2.822E-12	1.199E-12
LIVER	1.610E-15	4.216E-13	5.576E-13	2.732E-17	-1.000E+00	4.705E-11	1.266E-12
PANCREAS	1.396E-15	3.661E-13	4.842E-13	2.372E-17	-1.000E+00	3.211E-12	1.745E-12
SPLEEN	1.550E-15	4.071E-13	5.384E-13	2.638E-17	-1.000E+00	2.875E-12	1.172E-12
THYMUS	1.773E-15	4.666E-13	6.171E-13	3.023E-17	-1.000E+00	3.205E-12	1.288E-13
ICRP60ED	2.376E-15	2.085E-12	2.758E-12	1.371E-16	-1.000E+00	1.545E-10	4.002E-10
LA-142							
STOMACH	1.122E-13	1.354E-11	1.392E-11	1.739E-15	4.911E-11	4.911E-11	8.530E-10
SMALL IN	1.053E-13	1.274E-11	1.310E-11	1.636E-15	4.066E-11	4.066E-11	7.750E-10
LUNGS	1.199E-13	1.447E-11	1.488E-11	1.858E-15	3.508E-10	3.508E-10	8.370E-12
RED MARR	1.216E-13	1.481E-11	1.522E-11	1.901E-15	6.799E-12	6.799E-12	1.930E-11
THYROID	1.430E-13	1.741E-11	1.790E-11	2.235E-15	-1.000E+00	4.904E-12	1.160E-12
LOWER LI	1.113E-13	1.347E-11	1.385E-11	1.730E-15	1.143E-11	1.144E-11	1.901E-10
BONE SUR	1.259E-13	1.534E-11	1.577E-11	1.970E-15	-1.000E+00	5.372E-12	7.400E-12
BREAST	1.430E-13	1.727E-11	1.776E-11	2.218E-15	-1.000E+00	6.257E-12	1.540E-11
TESTES	1.559E-13	1.894E-11	1.948E-11	2.432E-15	-1.000E+00	2.103E-12	5.290E-12
OVARIES	1.036E-13	1.261E-11	1.296E-11	1.619E-15	-1.000E+00	5.887E-12	6.970E-11
EDEWBODY	1.336E-13	1.621E-11	1.666E-11	2.081E-15	-1.000E+00	5.587E-11	1.790E-10
THYROIDH	1.430E-13	1.741E-11	1.790E-11	2.235E-15	4.904E-12	4.904E-12	1.160E-12
ADRENALS	1.113E-13	1.354E-11	1.392E-11	1.739E-15	-1.000E+00	8.091E-12	1.710E-11
BLAD WAL	1.130E-13	1.374E-11	1.413E-11	1.764E-15	-1.000E+00	3.114E-12	2.050E-11
KIDNEYS	1.216E-13	1.467E-11	1.509E-11	1.884E-15	-1.000E+00	6.167E-12	2.940E-11
LIVER	1.139E-13	1.381E-11	1.419E-11	1.773E-15	-1.000E+00	1.571E-11	2.070E-11
PANCREAS	9.935E-14	1.201E-11	1.234E-11	1.542E-15	-1.000E+00	1.198E-11	6.400E-11
SPLEEN	1.096E-13	1.327E-11	1.365E-11	1.704E-15	-1.000E+00	9.825E-12	3.860E-11
THYMUS	1.225E-13	1.487E-11	1.529E-11	1.910E-15	-1.000E+00	1.362E-11	3.210E-12
ICRP60ED	1.231E-13	1.454E-11	1.495E-11	1.997E-15	-1.000E+00	5.653E-11	2.009E-10
CE-141							
STOMACH	2.389E-15	1.543E-12	3.022E-11	5.378E-17	9.040E-11	1.603E-10	2.240E-10
SMALL IN	2.073E-15	1.337E-12	2.618E-11	4.659E-17	2.167E-10	2.866E-10	5.893E-10
LUNGS	2.664E-15	1.725E-12	3.378E-11	6.012E-17	1.192E-09	1.669E-08	1.429E-12
RED MARR	2.415E-15	1.551E-12	3.036E-11	5.404E-17	2.434E-11	8.891E-11	3.396E-11
THYROID	3.691E-15	2.409E-12	4.715E-11	8.393E-17	-1.000E+00	2.543E-11	1.800E-13
LOWER LI	2.321E-15	1.499E-12	2.935E-11	5.224E-17	1.972E-09	4.100E-09	8.641E-09
BONE SUR	4.154E-15	2.704E-12	5.293E-11	9.421E-17	-1.000E+00	2.657E-10	2.375E-11
BREAST	4.256E-15	2.826E-12	5.533E-11	9.849E-17	-1.000E+00	4.456E-11	1.105E-11
TESTES	3.777E-15	2.482E-12	4.860E-11	8.650E-17	-1.000E+00	5.369E-12	7.580E-12
OVARIES	2.090E-15	1.354E-12	2.651E-11	4.719E-17	-1.000E+00	5.544E-11	1.076E-10
EDEWBODY	3.280E-15	2.143E-12	4.196E-11	7.468E-17	-1.000E+00	2.436E-09	7.850E-10
THYROIDH	3.691E-15	2.409E-12	4.715E-11	8.393E-17	3.186E-12	2.543E-11	1.800E-13
ADRENALS	2.621E-15	1.688E-12	3.306E-11	5.884E-17	-1.000E+00	7.773E-11	4.542E-12
BLAD WAL	2.441E-15	1.588E-12	3.108E-11	5.533E-17	-1.000E+00	1.820E-11	3.284E-11
KIDNEYS	2.509E-15	1.644E-12	3.219E-11	5.730E-17	-1.000E+00	3.210E-11	1.192E-11
LIVER	2.415E-15	1.566E-12	3.065E-11	5.455E-17	-1.000E+00	2.612E-10	1.956E-11
PANCREAS	1.995E-15	1.283E-12	2.512E-11	4.471E-17	-1.000E+00	8.150E-11	1.224E-11
SPLEEN	2.398E-15	1.551E-12	3.036E-11	5.404E-17	-1.000E+00	2.196E-10	1.800E-11
THYMUS	2.878E-15	1.875E-12	3.671E-11	6.535E-17	-1.000E+00	1.214E-10	5.150E-13
ICRP60ED	2.813E-15	1.688E-12	3.305E-11	6.281E-17	-1.000E+00	2.385E-09	7.155E-10
CE-143							
STOMACH	8.736E-15	4.927E-12	3.092E-11	1.858E-16	1.854E-10	2.121E-10	5.608E-10
SMALL IN	7.768E-15	4.382E-12	2.750E-11	1.653E-16	4.174E-10	4.914E-10	1.365E-09
LUNGS	9.506E-15	5.426E-12	3.405E-11	2.047E-16	1.429E-09	3.884E-09	3.829E-12
RED MARR	9.506E-15	5.336E-12	3.348E-11	2.013E-16	2.039E-11	2.953E-11	5.074E-11
THYROID	1.233E-14	7.084E-12	4.445E-11	2.672E-16	-1.000E+00	6.239E-12	4.351E-13
LOWER LI	8.504E-15	4.791E-12	3.006E-11	1.807E-16	2.311E-09	4.281E-09	1.167E-08
BONE SUR	1.190E-14	6.879E-12	4.317E-11	2.595E-16	-1.000E+00	1.647E-11	1.610E-11
BREAST	1.302E-14	7.674E-12	4.816E-11	2.895E-16	-1.000E+00	1.661E-11	2.327E-11
TESTES	1.319E-14	7.606E-12	4.773E-11	2.869E-16	-1.000E+00	5.816E-12	1.531E-11
OVARIES	8.247E-15	4.654E-12	2.921E-11	1.756E-16	-1.000E+00	7.556E-11	2.131E-10
EDEWBODY	1.122E-14	6.448E-12	4.046E-11	2.432E-16	-1.000E+00	9.190E-10	1.228E-09
THYROIDH	1.233E-14	7.084E-12	4.445E-11	2.672E-16	3.686E-12	6.239E-12	4.351E-13
ADRENALS	9.421E-15	5.313E-12	3.334E-11	2.004E-16	-1.000E+00	1.858E-11	1.177E-11
BLAD WAL	8.993E-15	5.108E-12	3.206E-11	1.927E-16	-1.000E+00	2.023E-11	5.571E-11
KIDNEYS	9.421E-15	5.404E-12	3.391E-11	2.038E-16	-1.000E+00	1.557E-11	2.793E-11
LIVER	8.821E-15	5.018E-12	3.149E-11	1.893E-16	-1.000E+00	4.852E-11	2.175E-11

PANCREAS	7.528E-15	4.223E-12	2.650E-11	1.593E-16	-1.000E+00	2.585E-11	2.969E-11
SPLEEN	8.650E-15	4.859E-12	3.049E-11	1.833E-16	-1.000E+00	4.251E-11	2.257E-11
THYMUS	9.935E-15	5.699E-12	3.576E-11	2.150E-16	-1.000E+00	2.367E-11	1.434E-12
ICRP60ED	1.012E-14	6.265E-12	3.931E-11	2.499E-16	-1.000E+00	8.879E-10	1.140E-09
CE-144							
STOMACH	5.456E-16	3.667E-13	7.640E-12	1.274E-17	6.003E-10	1.185E-09	1.110E-09
SMALL IN	4.699E-16	3.146E-13	6.554E-12	1.093E-17	1.461E-09	2.166E-09	3.711E-09
LUNGS	6.155E-16	4.166E-13	8.680E-12	1.447E-17	1.811E-08	7.896E-07	6.514E-12
RED MARR	5.216E-16	3.437E-13	7.159E-12	1.194E-17	4.025E-11	2.786E-09	8.660E-11
THYROID	8.780E-16	6.038E-13	1.258E-11	2.098E-17	-1.000E+00	2.908E-10	5.137E-12
LOWER LI	5.247E-16	3.492E-13	7.275E-12	1.213E-17	1.526E-08	3.410E-08	6.638E-08
BONE SUR	9.975E-16	6.750E-13	1.406E-11	2.345E-17	-1.000E+00	4.819E-09	1.304E-10
BREAST	1.052E-15	7.429E-13	1.548E-11	2.581E-17	-1.000E+00	3.478E-10	1.215E-11
TESTES	9.047E-16	6.296E-13	1.312E-11	2.188E-17	-1.000E+00	1.922E-10	1.013E-11
OVARIES	4.787E-16	3.223E-13	6.714E-12	1.120E-17	-1.000E+00	2.383E-10	6.961E-11
EDEWBODY	7.765E-16	5.319E-13	1.108E-11	1.848E-17	-1.000E+00	1.012E-07	5.710E-09
THYROIDH	8.780E-16	6.038E-13	1.258E-11	2.098E-17	3.907E-12	2.908E-10	5.137E-12
ADRENALS	5.901E-16	3.938E-13	8.205E-12	1.368E-17	-1.000E+00	4.513E-10	8.919E-12
BLAD WAL	5.678E-16	3.873E-13	8.070E-12	1.346E-17	-1.000E+00	2.050E-10	2.428E-11
KIDNEYS	5.927E-16	4.105E-13	8.553E-12	1.426E-17	-1.000E+00	3.113E-10	1.302E-11
LIVER	5.570E-16	3.744E-13	7.800E-12	1.301E-17	-1.000E+00	2.577E-08	6.894E-10
PANCREAS	4.439E-16	2.946E-13	6.136E-12	1.023E-17	-1.000E+00	4.903E-10	1.297E-11
SPLEEN	5.454E-16	3.641E-13	7.585E-12	1.265E-17	-1.000E+00	2.147E-08	5.739E-10
THYMUS	6.832E-16	4.669E-13	9.728E-12	1.622E-17	-1.000E+00	6.443E-10	5.533E-12
ICRP60ED	6.586E-16	4.076E-13	8.491E-12	1.510E-17	-1.000E+00	9.940E-08	5.257E-09
PR-143							
STOMACH	3.220E-22	1.805E-19	3.213E-18	6.320E-24	1.398E-10	1.661E-10	3.620E-10
SMALL IN	2.912E-22	1.634E-19	2.909E-18	5.721E-24	3.371E-10	4.126E-10	8.939E-10
LUNGS	3.477E-22	1.949E-19	3.470E-18	6.826E-24	1.631E-09	1.332E-08	6.518E-15
RED MARR	3.537E-22	1.983E-19	3.531E-18	6.946E-24	4.864E-12	1.497E-11	1.039E-12
THYROID	4.376E-22	2.446E-19	4.354E-18	8.564E-24	-1.000E+00	9.391E-14	6.518E-15
LOWER LI	3.152E-22	1.768E-19	3.148E-18	6.192E-24	3.304E-09	6.763E-09	1.466E-08
BONE SUR	3.880E-22	2.177E-19	3.875E-18	7.622E-24	-1.000E+00	1.495E-11	1.037E-12
BREAST	4.179E-22	2.340E-19	4.167E-18	8.196E-24	-1.000E+00	9.391E-14	6.519E-15
TESTES	4.625E-22	2.592E-19	4.616E-18	9.078E-24	-1.000E+00	9.390E-14	6.519E-15
OVARIES	3.169E-22	1.773E-19	3.157E-18	6.209E-24	-1.000E+00	9.390E-14	6.523E-15
EDEWBODY	3.940E-22	2.206E-19	3.928E-18	7.725E-24	-1.000E+00	2.190E-09	1.264E-09
THYROIDH	4.376E-22	2.446E-19	4.354E-18	8.564E-24	8.229E-14	9.391E-14	6.518E-15
ADRENALS	3.409E-22	1.910E-19	3.401E-18	6.689E-24	-1.000E+00	9.391E-14	6.519E-15
BLAD WAL	3.280E-22	1.837E-19	3.270E-18	6.432E-24	-1.000E+00	9.390E-14	6.519E-15
KIDNEYS	3.426E-22	1.917E-19	3.414E-18	6.714E-24	-1.000E+00	2.443E-11	1.696E-12
LIVER	3.254E-22	1.824E-19	3.248E-18	6.389E-24	-1.000E+00	1.192E-10	8.256E-12
PANCREAS	2.809E-22	1.573E-19	2.800E-18	5.507E-24	-1.000E+00	9.391E-14	6.519E-15
SPLEEN	3.160E-22	1.771E-19	3.153E-18	6.201E-24	-1.000E+00	9.391E-14	6.519E-15
THYMUS	3.631E-22	2.037E-19	3.627E-18	7.134E-24	-1.000E+00	9.391E-14	6.518E-15
ICRP60ED	1.773E-16	5.796E-13	1.032E-11	2.030E-17	-1.000E+00	2.151E-09	1.181E-09
ND-147							
STOMACH	4.299E-15	2.685E-12	4.605E-11	9.421E-17	1.419E-10	1.977E-10	3.571E-10
SMALL IN	3.803E-15	2.358E-12	4.044E-11	8.273E-17	3.388E-10	4.346E-10	9.403E-10
LUNGS	4.753E-15	2.978E-12	5.108E-11	1.045E-16	1.380E-09	1.060E-08	2.446E-12
RED MARR	4.471E-15	2.734E-12	4.689E-11	9.592E-17	3.426E-11	9.219E-11	5.042E-11
THYROID	6.278E-15	4.003E-12	6.866E-11	1.405E-16	-1.000E+00	1.825E-11	2.699E-13
LOWER LI	4.145E-15	2.563E-12	4.396E-11	8.993E-17	2.868E-09	5.843E-09	1.279E-08
BONE SUR	6.261E-15	4.003E-12	6.866E-11	1.405E-16	-1.000E+00	3.258E-10	2.219E-11
BREAST	6.809E-15	4.467E-12	7.662E-11	1.567E-16	-1.000E+00	3.465E-11	1.872E-11
TESTES	6.714E-15	4.296E-12	7.369E-11	1.507E-16	-1.000E+00	6.749E-12	1.364E-11
OVARIES	4.085E-15	2.538E-12	4.354E-11	8.907E-17	-1.000E+00	8.412E-11	1.790E-10
EDEWBODY	5.670E-15	3.612E-12	6.196E-11	1.268E-16	-1.000E+00	1.849E-09	1.184E-09
THYROIDH	6.278E-15	4.003E-12	6.866E-11	1.405E-16	4.598E-12	1.825E-11	2.699E-13
ADRENALS	4.582E-15	2.831E-12	4.857E-11	9.935E-17	-1.000E+00	4.839E-11	7.681E-12
BLAD WAL	4.471E-15	2.807E-12	4.815E-11	9.849E-17	-1.000E+00	2.381E-11	4.948E-11
KIDNEYS	4.693E-15	2.978E-12	5.108E-11	1.045E-16	-1.000E+00	2.582E-11	1.912E-11
LIVER	4.394E-15	2.734E-12	4.689E-11	9.592E-17	-1.000E+00	1.800E-10	1.881E-11
PANCREAS	3.623E-15	2.231E-12	3.827E-11	7.828E-17	-1.000E+00	5.796E-11	1.898E-11
SPLEEN	4.239E-15	2.636E-12	4.522E-11	9.249E-17	-1.000E+00	4.781E-11	1.454E-11
THYMUS	5.053E-15	3.197E-12	5.485E-11	1.122E-16	-1.000E+00	7.228E-11	8.979E-13
ICRP60ED	5.038E-15	3.161E-12	5.421E-11	1.178E-16	-1.000E+00	1.797E-09	1.082E-09

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STOMACH	5.284E-15	3.242E-12	3.027E-11	1.182E-16	1.059E-10	1.291E-10	3.457E-10
SMALL IN	4.616E-15	2.819E-12	2.632E-11	1.028E-16	2.413E-10	2.988E-10	8.735E-10
LUNGS	5.884E-15	3.618E-12	3.378E-11	1.319E-16	9.014E-10	2.348E-09	2.402E-12
RED MARR	5.438E-15	3.313E-12	3.093E-11	1.208E-16	7.943E-11	2.075E-10	4.660E-11
THYROID	7.982E-15	4.910E-12	4.585E-11	1.790E-16-1.000E+00	7.599E-12	2.063E-13	
LOWER LI	5.147E-15	3.148E-12	2.940E-11	1.148E-16	1.509E-09	2.916E-09	8.684E-09
BONE SUR	8.821E-15	5.427E-12	5.067E-11	1.978E-16-1.000E+00	2.027E-09	3.609E-11	
BREAST	9.078E-15	6.038E-12	5.638E-11	2.201E-16-1.000E+00	1.623E-11	1.714E-11	
TESTES	8.230E-15	5.145E-12	4.804E-11	1.876E-16-1.000E+00	2.296E-11	1.144E-11	
OVARIES	4.719E-15	2.890E-12	2.698E-11	1.053E-16-1.000E+00	7.449E-11	1.621E-10	
EDEWBODY	7.151E-15	4.487E-12	4.190E-11	1.636E-16-1.000E+00	6.760E-10	8.807E-10	
THYROIDH	7.982E-15	4.910E-12	4.585E-11	1.790E-16	4.130E-12	7.599E-12	2.063E-13
ADRENALS	5.772E-15	3.548E-12	3.313E-11	1.293E-16-1.000E+00	2.091E-11	7.890E-12	
BLAD WAL	5.387E-15	3.289E-12	3.071E-11	1.199E-16-1.000E+00	1.849E-11	4.729E-11	
KIDNEYS	5.524E-15	3.383E-12	3.159E-11	1.233E-16-1.000E+00	1.526E-11	2.046E-11	
LIVER	5.361E-15	3.289E-12	3.071E-11	1.199E-16-1.000E+00	1.285E-10	1.529E-11	
PANCREAS	4.445E-15	2.725E-12	2.545E-11	9.935E-17-1.000E+00	2.489E-11	2.155E-11	
SPLEEN	5.301E-15	3.242E-12	3.027E-11	1.182E-16-1.000E+00	1.981E-11	1.502E-11	
THYMUS	6.278E-15	3.830E-12	3.576E-11	1.396E-16-1.000E+00	2.493E-11	8.126E-13	
ICRP60ED	6.129E-15	3.524E-12	3.290E-11	1.371E-16-1.000E+00	6.115E-10	8.106E-10	

PU-238

STOMACH	6.706E-19	1.399E-15	2.937E-14	4.856E-20	2.725E-10	1.134E-09	1.277E-09
SMALL IN	4.565E-19	4.242E-16	8.908E-15	1.473E-20	6.381E-10	2.222E-09	3.186E-09
LUNGS	1.011E-18	3.009E-15	6.319E-14	1.045E-19	9.682E-07	3.186E-04	8.643E-14
RED MARR	4.548E-19	1.112E-15	2.336E-14	3.863E-20	2.552E-09	5.785E-05	1.266E-08
THYROID	1.465E-18	3.724E-15	7.821E-14	1.293E-19-1.000E+00	3.852E-10	7.993E-14	
LOWER LI	6.654E-19	1.781E-15	3.739E-14	6.183E-20	6.605E-09	3.294E-08	5.656E-08
BONE SUR	1.790E-18	5.056E-15	1.062E-13	1.756E-19-1.000E+00	7.211E-04	1.576E-07	
BREAST	1.542E-17	1.004E-13	2.108E-12	3.486E-18-1.000E+00	4.394E-10	1.804E-13	
TESTES	3.623E-18	1.862E-14	3.910E-13	6.466E-19-1.000E+00	1.038E-05	2.318E-09	
OVARIES	6.654E-19	1.717E-15	3.605E-14	5.961E-20-1.000E+00	1.041E-05	2.325E-09	
EDEWBODY	3.768E-18	2.116E-14	4.444E-13	7.348E-19-1.000E+00	7.759E-05	1.337E-08	
THYROIDH	1.465E-18	3.724E-15	7.821E-14	1.293E-19	1.480E-11	3.852E-10	7.993E-14
ADRENALS	8.907E-19	3.034E-15	6.371E-14	1.053E-19-1.000E+00	4.358E-10	8.973E-14	
BLAD WAL	6.158E-19	5.229E-16	1.098E-14	1.816E-20-1.000E+00	3.837E-10	1.536E-13	
KIDNEYS	6.886E-19	6.586E-16	1.383E-14	2.287E-20-1.000E+00	3.976E-10	9.036E-14	
LIVER	6.132E-19	6.487E-16	1.362E-14	2.252E-20-1.000E+00	1.363E-04	2.914E-08	
PANCREAS	5.815E-19	1.877E-15	3.941E-14	6.517E-20-1.000E+00	4.005E-10	1.219E-13	
SPLEEN	6.423E-19	1.362E-15	2.859E-14	4.728E-20-1.000E+00	4.029E-10	8.896E-14	
THYMUS	8.256E-19	7.202E-16	1.512E-14	2.501E-20-1.000E+00	3.954E-10	8.030E-14	
ICRP60ED	2.009E-18	9.939E-15	2.087E-13	3.462E-19-1.000E+00	6.129E-05	9.453E-09	

PU-239

STOMACH	1.773E-18	1.485E-15	3.118E-14	5.156E-20	2.533E-10	1.069E-09	1.196E-09
SMALL IN	1.482E-18	9.817E-16	2.062E-14	3.409E-20	5.952E-10	2.097E-09	2.991E-09
LUNGS	2.073E-18	2.205E-15	4.631E-14	7.657E-20	9.116E-07	3.213E-04	7.881E-14
RED MARR	1.670E-18	1.376E-15	2.890E-14	4.779E-20	2.400E-09	6.568E-05	1.405E-08
THYROID	2.903E-18	2.861E-15	6.008E-14	9.935E-20-1.000E+00	3.757E-10	7.495E-14	
LOWER LI	1.739E-18	1.611E-15	3.382E-14	5.593E-20	6.175E-09	3.099E-08	5.316E-08
BONE SUR	3.434E-18	3.626E-15	7.614E-14	1.259E-19-1.000E+00	8.167E-04	1.748E-07	
BREAST	8.547E-18	3.996E-14	8.391E-13	1.387E-18-1.000E+00	3.990E-10	1.207E-13	
TESTES	3.717E-18	8.534E-15	1.792E-13	2.963E-19-1.000E+00	1.197E-05	2.631E-09	
OVARIES	1.576E-18	1.480E-15	3.108E-14	5.139E-20-1.000E+00	1.194E-05	2.624E-09	
EDEWBODY	3.494E-18	9.323E-15	1.958E-13	3.237E-19-1.000E+00	8.299E-05	1.396E-08	
THYROIDH	2.903E-18	2.861E-15	6.008E-14	9.935E-20	1.381E-11	3.757E-10	7.495E-14
ADRENALS	1.995E-18	2.198E-15	4.615E-14	7.631E-20-1.000E+00	4.015E-10	8.280E-14	
BLAD WAL	1.756E-18	1.144E-15	2.403E-14	3.974E-20-1.000E+00	3.743E-10	1.253E-13	
KIDNEYS	1.781E-18	1.194E-15	2.507E-14	4.145E-20-1.000E+00	3.831E-10	8.769E-14	
LIVER	1.756E-18	1.196E-15	2.512E-14	4.154E-20-1.000E+00	1.507E-04	3.134E-08	
PANCREAS	1.482E-18	1.512E-15	3.175E-14	5.250E-20-1.000E+00	3.858E-10	9.949E-14	
SPLEEN	1.781E-18	1.485E-15	3.118E-14	5.156E-20-1.000E+00	3.841E-10	8.468E-14	
THYMUS	2.133E-18	1.399E-15	2.937E-14	4.856E-20-1.000E+00	3.820E-10	7.536E-14	
ICRP60ED	2.499E-18	4.801E-15	1.008E-13	1.696E-19-1.000E+00	6.453E-05	9.697E-09	

PU-240

STOMACH	6.971E-19	1.389E-15	2.916E-14	4.822E-20	2.553E-10	1.079E-09	1.201E-09
SMALL IN	4.830E-19	4.514E-16	9.479E-15	1.567E-20	6.007E-10	2.108E-09	3.005E-09
LUNGS	1.036E-18	2.935E-15	6.164E-14	1.019E-19	9.117E-07	3.213E-04	8.206E-14

RED MARR	4.668E-19	1.093E-15	2.295E-14	3.794E-20	2.400E-09	6.562E-05	1.405E-08
THYROID	1.516E-18	3.675E-15	7.718E-14	1.276E-19	-1.000E+00	3.758E-10	7.499E-14
LOWER LI	6.834E-19	1.744E-15	3.662E-14	6.055E-20	6.224E-09	3.112E-08	5.337E-08
BONE SUR	1.841E-18	4.933E-15	1.036E-13	1.713E-19	-1.000E+00	8.145E-04	1.746E-07
BREAST	1.490E-17	9.570E-14	2.010E-12	3.323E-18	-1.000E+00	4.333E-10	1.734E-13
TESTES	3.588E-18	1.786E-14	3.750E-13	6.201E-19	-1.000E+00	1.197E-05	2.631E-09
OVARIES	6.869E-19	1.687E-15	3.543E-14	5.858E-20	-1.000E+00	1.197E-05	2.632E-09
EDEWBODY	3.691E-18	2.023E-14	4.247E-13	7.023E-19	-1.000E+00	8.291E-05	1.397E-08
THYROIDH	1.516E-18	3.675E-15	7.718E-14	1.276E-19	1.381E-11	3.758E-10	7.499E-14
ADRENALS	8.993E-19	2.935E-15	6.164E-14	1.019E-19	-1.000E+00	4.327E-10	8.670E-14
BLAD WAL	6.569E-19	5.673E-16	1.191E-14	1.970E-20	-1.000E+00	3.740E-10	1.513E-13
KIDNEYS	7.382E-19	7.054E-16	1.481E-14	2.449E-20	-1.000E+00	3.903E-10	8.755E-14
LIVER	6.500E-19	6.832E-16	1.435E-14	2.372E-20	-1.000E+00	1.505E-04	3.128E-08
PANCREAS	5.909E-19	1.825E-15	3.833E-14	6.338E-20	-1.000E+00	3.935E-10	1.173E-13
SPLEEN	6.672E-19	1.349E-15	2.833E-14	4.685E-20	-1.000E+00	3.948E-10	8.529E-14
THYMUS	8.821E-19	7.770E-16	1.632E-14	2.698E-20	-1.000E+00	3.870E-10	7.541E-14
ICRP60ED	1.993E-18	9.531E-15	2.002E-13	3.321E-19	-1.000E+00	6.450E-05	9.710E-09
PU-241							
STOMACH	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.415E-12	2.455E-11	6.080E-12
SMALL IN	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.838E-12	2.436E-11	1.513E-11
LUNGS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.369E-10	3.172E-06	4.468E-15
RED MARR	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.411E-13	1.426E-06	2.780E-10
THYROID	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	9.130E-12	1.011E-15
LOWER LI	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.199E-11	1.805E-10	2.694E-10
BONE SUR	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.776E-05	3.467E-09
BREAST	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.141E-11	2.780E-15
TESTES	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.753E-07	5.636E-11
OVARIES	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.755E-07	5.650E-11
EDEWBODY	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.334E-06	2.069E-10
THYROIDH	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.872E-15	9.130E-12	1.011E-15
ADRENALS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	4.467E-11	6.558E-15
BLAD WAL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	5.505E-12	1.423E-15
KIDNEYS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.072E-11	5.138E-15
LIVER	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.000E-06	5.439E-10
PANCREAS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	3.877E-11	5.540E-15
SPLEEN	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	1.772E-11	1.770E-15
THYMUS	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	2.072E-11	1.043E-15
ICRP60ED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.000E+00	9.345E-07	1.278E-10
AM-241							
STOMACH	4.873E-16	4.045E-13	8.495E-12	1.405E-17	5.091E-10	3.251E-09	1.345E-09
SMALL IN	4.111E-16	3.379E-13	7.096E-12	1.173E-17	8.464E-10	4.191E-09	3.330E-09
LUNGS	5.927E-16	4.958E-13	1.041E-11	1.721E-17	4.703E-07	1.837E-05	3.364E-11
RED MARR	3.203E-16	2.664E-13	5.594E-12	9.249E-18	4.847E-08	1.738E-04	1.448E-06
THYROID	9.421E-16	7.819E-13	1.642E-11	2.715E-17	-1.000E+00	1.596E-09	1.321E-11
LOWER LI	4.308E-16	3.576E-13	7.510E-12	1.242E-17	6.275E-09	3.161E-08	5.810E-08
BONE SUR	1.088E-15	9.101E-13	1.911E-11	3.160E-17	-1.000E+00	2.166E-03	1.802E-05
BREAST	1.259E-15	1.369E-12	2.875E-11	4.753E-17	-1.000E+00	2.666E-09	2.625E-11
TESTES	9.849E-16	8.732E-13	1.834E-11	3.032E-17	-1.000E+00	3.243E-05	2.693E-07
OVARIES	4.334E-16	3.601E-13	7.562E-12	1.250E-17	-1.000E+00	3.251E-05	2.706E-07
EDEWBODY	7.999E-16	7.252E-13	1.523E-11	2.518E-17	-1.000E+00	1.197E-04	9.819E-07
THYROIDH	9.421E-16	7.819E-13	1.642E-11	2.715E-17	2.761E-10	1.596E-09	1.321E-11
ADRENALS	4.787E-16	4.020E-13	8.443E-12	1.396E-17	-1.000E+00	5.462E-09	4.608E-11
BLAD WAL	5.490E-16	4.514E-13	9.479E-12	1.567E-17	-1.000E+00	1.342E-09	2.285E-11
KIDNEYS	5.918E-16	4.884E-13	1.026E-11	1.696E-17	-1.000E+00	4.371E-09	3.986E-11
LIVER	5.336E-16	4.390E-13	9.220E-12	1.524E-17	-1.000E+00	3.908E-04	3.247E-06
PANCREAS	3.323E-16	2.787E-13	5.853E-12	9.678E-18	-1.000E+00	4.691E-09	4.238E-11
SPLEEN	4.676E-16	3.872E-13	8.132E-12	1.345E-17	-1.000E+00	2.029E-09	1.944E-11
THYMUS	7.305E-16	5.994E-13	1.259E-11	2.081E-17	-1.000E+00	1.706E-09	1.362E-11
ICRP60ED	6.115E-16	5.067E-13	1.064E-11	1.856E-17	-1.000E+00	7.077E-05	5.748E-07
CM-242							
STOMACH	6.997E-19	1.654E-15	3.424E-14	5.747E-20	5.453E-10	1.627E-09	1.423E-09
SMALL IN	4.453E-19	4.313E-16	8.931E-15	1.499E-20	8.934E-10	2.656E-09	3.545E-09
LUNGS	1.079E-18	3.525E-15	7.298E-14	1.225E-19	4.630E-07	1.546E-05	8.833E-12
RED MARR	4.899E-19	1.292E-15	2.674E-14	4.488E-20	5.125E-08	3.908E-06	3.581E-08
THYROID	1.559E-18	4.584E-15	9.492E-14	1.593E-19	-1.000E+00	9.384E-10	8.805E-12
LOWER LI	7.126E-19	2.090E-15	4.328E-14	7.263E-20	6.546E-09	3.118E-08	6.234E-08
BONE SUR	1.901E-18	5.891E-15	1.220E-13	2.047E-19	-1.000E+00	4.862E-05	4.463E-07

BREAST	1.721E-17	1.060E-13	2.194E-12	3.683E-18	-1.000E+00	9.415E-10	8.935E-12
TESTES	4.179E-18	2.167E-14	4.486E-13	7.528E-19	-1.000E+00	5.695E-07	5.190E-09
OVARIES	7.048E-19	2.019E-15	4.180E-14	7.014E-20	-1.000E+00	5.699E-07	5.198E-09
EDEWBODY	4.197E-18	2.302E-14	4.766E-13	7.999E-19	-1.000E+00	4.663E-06	3.102E-08
THYROIDH	1.559E-18	4.584E-15	9.492E-14	1.593E-19	3.048E-10	9.384E-10	8.805E-12
ADRENALS	9.678E-19	3.500E-15	7.247E-14	1.216E-19	-1.000E+00	9.424E-10	8.845E-12
BLAD WAL	5.789E-19	4.806E-16	9.951E-15	1.670E-20	-1.000E+00	9.383E-10	8.909E-12
KIDNEYS	6.492E-19	6.852E-16	1.419E-14	2.381E-20	-1.000E+00	9.395E-10	8.833E-12
LIVER	5.978E-19	6.951E-16	1.439E-14	2.415E-20	-1.000E+00	1.223E-05	1.129E-07
PANCREAS	6.338E-19	2.171E-15	4.496E-14	7.545E-20	-1.000E+00	9.397E-10	8.870E-12
SPLEEN	6.723E-19	1.595E-15	3.302E-14	5.541E-20	-1.000E+00	9.394E-10	8.825E-12
THYMUS	7.785E-19	6.827E-16	1.414E-14	2.372E-20	-1.000E+00	9.390E-10	8.812E-12
ICRP60ED	2.199E-18	1.078E-14	2.232E-13	3.757E-19	-1.000E+00	3.539E-06	2.035E-08
CM-244							
STOMACH	5.104E-19	1.386E-15	2.910E-14	4.813E-20	5.191E-10	1.712E-09	1.356E-09
SMALL IN	2.998E-19	3.083E-16	6.472E-15	1.071E-20	8.501E-10	2.737E-09	3.362E-09
LUNGS	8.299E-19	3.058E-15	6.420E-14	1.062E-19	4.950E-07	1.925E-05	8.846E-12
RED MARR	3.571E-19	1.090E-15	2.289E-14	3.785E-20	5.102E-08	9.330E-05	7.766E-07
THYROID	1.182E-18	3.922E-15	8.233E-14	1.362E-19	-1.000E+00	1.015E-09	8.467E-12
LOWER LI	5.344E-19	1.786E-15	3.749E-14	6.201E-20	6.289E-09	3.147E-08	5.967E-08
BONE SUR	1.447E-18	5.056E-15	1.061E-13	1.756E-19	-1.000E+00	1.171E-03	9.748E-06
BREAST	1.507E-17	9.447E-14	1.983E-12	3.280E-18	-1.000E+00	1.052E-09	8.920E-12
TESTES	3.520E-18	1.919E-14	4.028E-13	6.663E-19	-1.000E+00	1.584E-05	1.319E-07
OVARIES	5.293E-19	1.724E-15	3.619E-14	5.986E-20	-1.000E+00	1.587E-05	1.324E-07
EDEWBODY	3.571E-18	2.045E-14	4.292E-13	7.100E-19	-1.000E+00	6.687E-05	5.429E-07
THYROIDH	1.182E-18	3.922E-15	8.233E-14	1.362E-19	2.909E-10	1.015E-09	8.467E-12
ADRENALS	7.528E-19	3.034E-15	6.369E-14	1.053E-19	-1.000E+00	1.113E-09	9.276E-12
BLAD WAL	3.931E-19	3.305E-16	6.938E-15	1.148E-20	-1.000E+00	1.011E-09	8.646E-12
KIDNEYS	4.505E-19	5.106E-16	1.072E-14	1.773E-20	-1.000E+00	1.059E-09	8.891E-12
LIVER	4.102E-19	5.229E-16	1.098E-14	1.816E-20	-1.000E+00	2.379E-04	1.984E-06
PANCREAS	4.865E-19	1.877E-15	3.940E-14	6.517E-20	-1.000E+00	1.056E-09	8.895E-12
SPLEEN	4.899E-19	1.337E-15	2.806E-14	4.642E-20	-1.000E+00	1.027E-09	8.574E-12
THYMUS	5.301E-19	4.810E-16	1.010E-14	1.670E-20	-1.000E+00	1.020E-09	8.493E-12
ICRP60ED	1.824E-18	9.529E-15	2.000E-13	3.316E-19	-1.000E+00	4.028E-05	3.210E-07

A.2 Listing of DOSFAC user-specified output file

The following file represents the information that is printed to the user-specified output file. The data written to this file are for information only and are not used by the MACCS/MACCS2 program.

```

USER INPUT IS READ FROM UNIT 24
RECORD IDENTIFIER FIELDS 11 CHARACTERS LONG ARE EXPECTED.
THE FIRST 149 COLUMNS OF EACH INPUT RECORD ARE PROCESSED.
THE MAXIMUM NUMBER OF IDENTIFIER RECORDS THAT MAY BE SAVED AS THE BASE CASE IS 1000.

```

```

RECORD
NUMBER

```

```

RECORD

```

```

* DOSFAC2 input file DEFAULT.SEL, incorporating the program's internal
* defaults in a user-supplied file as a starting point for modification.
*
* A RECORD IDENTIFIER IS SPECIFIED IN THE FIRST 11 COLUMNS OF EACH DATA
* INPUT LINE. RECORD IDENTIFIERS ARE DESCRIBED IN THE DOSFAC2 USERS GUIDE.
*
* THE LIST OF ACUTERBE00# AND WTRFAC0000# ORGANS MUST BE IDENTICAL.
* ACUTE DOSE ORGANS MUST BE IDENTIFIED WITH A .TRUE. ACUTE_DOSE VALUE.
* RBE VALUES FOR THYROIDH, EDEWBODY, AND ICRP60ED ARE HARDWIRED
* IN THE DOSFAC PROGRAM AND CANNOT BE CHANGED THROUGH THIS INPUT FILE.
*
*****
* Specify Acute_Dose (.TRUE. or .FALSE.) and RBE_Life_HighLET:
*
*HARD-WIRED
*ORGAN LIST      Acute_Dose      RBE_Life_HighLET

```

```

*
1 STOMACH_01 .TRUE. 20.
2 SMALL_IN_02 .TRUE. 20.
3 LUNGS_03 .TRUE. 20.
4 RED_MARR_04 .TRUE. 20.
5 THYROID_05 .FALSE. 20.
6 LOWER_LI_06 .TRUE. 20.
7 BONE_SUR_07 .FALSE. 20.
8 BREAST_08 .FALSE. 20.
9 TESTES_09 .FALSE. 20.
10 OVARIES_10 .FALSE. 20.
11 ADRENALS_11 .FALSE. 20.
12 BLAD_WAL_12 .FALSE. 20.
13 KIDNEYS_13 .FALSE. 20.
14 LIVER_14 .FALSE. 20.
15 PANCREAS_15 .FALSE. 20.
16 SPLEEN_16 .FALSE. 20.
17 THYMUS_17 .FALSE. 20.
*
*
* LIST ORGANS GIVEN A .TRUE. ACUTE_DOSE VALUE ABOVE AND SPECIFY RBE_ACUTE_HIGHLET
* Acute_Name RBE_Acute_HighLET
*
18 ACUTERBE001 'STOMACH' 10.
19 ACUTERBE002 'SMALL IN' 10.
20 ACUTERBE003 'LUNGS' 10.
21 ACUTERBE004 'RED MARR' 10.
22 ACUTERBE005 'LOWER LI' 10.
*****
*
* Define the particle size diameter in units of microns AMAD. The particle
* size must be one of the following diameters: 0.2, 0.3, 0.4, 0.5, 0.6, 0.7,
* 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.
*
23 Partcl_AMAD 1.0
*****
*
* Specify WTFRAC for each of the 18 commitment periods. The maximum number
* of columns each line of information may contain is 150 columns. The data
* for each organ must not exceed one line length.
*
* Acute_Name WTFRAC values for each of the 18 commitment periods extending
to 50 years
*
24 WTFRAC00001 'STOMACH ' 1.0 0.37 0.37 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
25 WTFRAC00002 'SMALL IN' 1.0 0.43 0.43 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
26 WTFRAC00003 'LUNGS' 1.0 .0625 .0625 .0625 .0625 .027 .027 .027 .027 .027 .027 .027
.01087 0.0 0.0 0.0 0.0 0.0
27 WTFRAC00004 'RED MARR' 1.0 0.5 0.5 0.5 0.5 .25 .25 .25 .25 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
28 WTFRAC00005 'LOWER LI' 1.0 0.43 0.43 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0
*****
* Define Inhalation Clearance Class (INHCLS). INHCLS is the only column
* in this section which can be modified without creating a run error.
*
*
* HARDWIRED
* LIST OF
* RADIONUCLIDES INHCLS
*
29 DFINHCLS001 CO-58 3
30 DFINHCLS002 CO-60 3
31 DFINHCLS003 KR-85 4
32 DFINHCLS004 KR-85M 4
33 DFINHCLS005 KR-87 4
34 DFINHCLS006 KR-88 4
35 DFINHCLS007 RB-86 1
36 DFINHCLS008 SR-89 1
37 DFINHCLS009 SR-90 1
38 DFINHCLS010 SR-91 1
39 DFINHCLS011 SR-92 1
40 DFINHCLS012 Y-90 3
41 DFINHCLS013 Y-91 3
42 DFINHCLS014 Y-92 3

```

43	DFINHCLS015	Y-93	3
44	DFINHCLS016	ZR-95	2
45	DFINHCLS017	ZR-97	2
46	DFINHCLS018	NB-95	3
47	DFINHCLS019	MO-99	3
48	DFINHCLS020	TC-99M	2
49	DFINHCLS021	RU-103	3
50	DFINHCLS022	RU-105	3
51	DFINHCLS023	RU-106	3
52	DFINHCLS024	RH-105	3
53	DFINHCLS025	SB-127	2
54	DFINHCLS026	SB-129	2
55	DFINHCLS027	TE-127	2
56	DFINHCLS028	TE-127M	2
57	DFINHCLS029	TE-129	2
58	DFINHCLS030	TE-129M	2
59	DFINHCLS031	TE-131M	2
60	DFINHCLS032	TE-132	2
61	DFINHCLS033	I-131	1
62	DFINHCLS034	I-132	1
63	DFINHCLS035	I-133	1
64	DFINHCLS036	I-134	1
65	DFINHCLS037	I-135	1
66	DFINHCLS038	XE-133	4
67	DFINHCLS039	XE-135	4
68	DFINHCLS040	CS-134	1
69	DFINHCLS041	CS-136	1
70	DFINHCLS042	CS-137	1
71	DFINHCLS043	BA-139	1
72	DFINHCLS044	BA-140	1
73	DFINHCLS045	LA-140	2
74	DFINHCLS046	LA-141	2
75	DFINHCLS047	LA-142	2
76	DFINHCLS048	CE-141	3
77	DFINHCLS049	CE-143	3
78	DFINHCLS050	CE-144	3
79	DFINHCLS051	PR-143	3
80	DFINHCLS052	ND-147	3
81	DFINHCLS053	NP-239	2
82	DFINHCLS054	PU-238	3
83	DFINHCLS055	PU-239	3
84	DFINHCLS056	PU-240	3
85	DFINHCLS057	PU-241	3
86	DFINHCLS058	AM-241	2
87	DFINHCLS059	CM-242	2
88	DFINHCLS060	CM-244	2

***** TERMINATOR RECORD ENCOUNTERED -- END OF BASE CASE USER INPUT *****

USER INPUT PROCESSING SUMMARY - BASE CASE

NUMBER OF RECORDS READ	=	133
NUMBER OF BLANK OR COMMENT RECORDS READ	=	44
NUMBER OF TERMINATOR RECORDS	=	1
NUMBER OF RECORDS PROCESSED	=	88
NUMBER OF PROCESSED RECORDS DUPLICATED	=	0
NUMBER OF PROCESSED RECORDS SORTED	=	88

I	ORGNAM(I)	AOC(I)	QFUI(I,1)	QFUI(I,2)
1	STOMACH	.TRUE.	20.00	10.00
2	SMALL IN	.TRUE.	20.00	10.00
3	LUNGS	.TRUE.	20.00	10.00
4	RED MARR	.TRUE.	20.00	10.00
5	THYROID	.FALSE.	20.00	1.00
6	LOWER LI	.TRUE.	20.00	10.00
7	BONE SUR	.FALSE.	20.00	1.00
8	BREAST	.FALSE.	20.00	1.00
9	TESTES	.FALSE.	20.00	1.00
10	OVARIES	.FALSE.	20.00	1.00
11	EDWBODY	RBE DATA FOR THIS ORGAN HARDWIRED INTO DOSFAC2 PROGRAM		
12	THYROIDH	RBE DATA FOR THIS ORGAN HARDWIRED INTO DOSFAC2 PROGRAM		

```

13  ADRENALS      .FALSE. 20.00    1.00
14  BLAD WAL      .FALSE. 20.00    1.00
15  KIDNEYS       .FALSE. 20.00    1.00
16  LIVER         .FALSE. 20.00    1.00
17  PANCREAS      .FALSE. 20.00    1.00
18  SPLEEN        .FALSE. 20.00    1.00
19  THYMUS        .FALSE. 20.00    1.00
20  ICRP60ED      RBE DATA FOR THIS ORGAN HARDWIRED INTO DOSFAC PROGRAM

PARTCL_AMAD = 1.00
WTORG( 1) = STOMACH
WTFRAC( 1, 1) =1.000
WTFRAC( 2, 1) =0.370
WTFRAC( 3, 1) =0.370
WTFRAC( 4, 1) =0.000
WTFRAC( 5, 1) =0.000
WTFRAC( 6, 1) =0.000
WTFRAC( 7, 1) =0.000
WTFRAC( 8, 1) =0.000
WTFRAC( 9, 1) =0.000
WTFRAC(10, 1) =0.000
WTFRAC(11, 1) =0.000
WTFRAC(12, 1) =0.000
WTFRAC(13, 1) =0.000
WTFRAC(14, 1) =0.000
WTFRAC(15, 1) =0.000
WTFRAC(16, 1) =0.000
WTFRAC(17, 1) =0.000
WTFRAC(18, 1) =0.000
WTORG( 2) = SMALL IN
WTFRAC( 1, 2) =1.000
WTFRAC( 2, 2) =0.430
WTFRAC( 3, 2) =0.430
WTFRAC( 4, 2) =0.000
WTFRAC( 5, 2) =0.000
WTFRAC( 6, 2) =0.000
WTFRAC( 7, 2) =0.000
WTFRAC( 8, 2) =0.000
WTFRAC( 9, 2) =0.000
WTFRAC(10, 2) =0.000
WTFRAC(11, 2) =0.000
WTFRAC(12, 2) =0.000
WTFRAC(13, 2) =0.000
WTFRAC(14, 2) =0.000
WTFRAC(15, 2) =0.000
WTFRAC(16, 2) =0.000
WTFRAC(17, 2) =0.000
WTFRAC(18, 2) =0.000
WTORG( 3) = LUNGS
WTFRAC( 1, 3) =1.000
WTFRAC( 2, 3) =0.063
WTFRAC( 3, 3) =0.063
WTFRAC( 4, 3) =0.063
WTFRAC( 5, 3) =0.063
WTFRAC( 6, 3) =0.027
WTFRAC( 7, 3) =0.027
WTFRAC( 8, 3) =0.027
WTFRAC( 9, 3) =0.027
WTFRAC(10, 3) =0.027
WTFRAC(11, 3) =0.027
WTFRAC(12, 3) =0.027
WTFRAC(13, 3) =0.011
WTFRAC(14, 3) =0.000
WTFRAC(15, 3) =0.000
WTFRAC(16, 3) =0.000
WTFRAC(17, 3) =0.000
WTFRAC(18, 3) =0.000
WTORG( 4) = RED MARR
WTFRAC( 1, 4) =1.000
WTFRAC( 2, 4) =0.500
WTFRAC( 3, 4) =0.500
WTFRAC( 4, 4) =0.500
WTFRAC( 5, 4) =0.500
WTFRAC( 6, 4) =0.250
WTFRAC( 7, 4) =0.250
WTFRAC( 8, 4) =0.250
WTFRAC( 9, 4) =0.250

```

WTFRAC(10, 4) =0.000
 WTFRAC(11, 4) =0.000
 WTFRAC(12, 4) =0.000
 WTFRAC(13, 4) =0.000
 WTFRAC(14, 4) =0.000
 WTFRAC(15, 4) =0.000
 WTFRAC(16, 4) =0.000
 WTFRAC(17, 4) =0.000
 WTFRAC(18, 4) =0.000
 WTORG(5) = LOWER LI
 WTFRAC(1, 5) =1.000
 WTFRAC(2, 5) =0.430
 WTFRAC(3, 5) =0.430
 WTFRAC(4, 5) =0.000
 WTFRAC(5, 5) =0.000
 WTFRAC(6, 5) =0.000
 WTFRAC(7, 5) =0.000
 WTFRAC(8, 5) =0.000
 WTFRAC(9, 5) =0.000
 WTFRAC(10, 5) =0.000
 WTFRAC(11, 5) =0.000
 WTFRAC(12, 5) =0.000
 WTFRAC(13, 5) =0.000
 WTFRAC(14, 5) =0.000
 WTFRAC(15, 5) =0.000
 WTFRAC(16, 5) =0.000
 WTFRAC(17, 5) =0.000
 WTFRAC(18, 5) =0.000
 CO-58 3
 CO-60 3
 KR-85 4
 KR-85M 4
 KR-87 4
 KR-88 4
 RB-86 1
 SR-89 1
 SR-90 1
 SR-91 1
 SR-92 1
 Y-90 3
 Y-91 3
 Y-92 3
 Y-93 3
 ZR-95 2
 ZR-97 2
 NB-95 3
 MO-99 3
 TC-99M 2
 RU-103 3
 RU-105 3
 RU-106 3
 RH-105 3
 SB-127 2
 SB-129 2
 TE-127 2
 TE-127M 2
 TE-129 2
 TE-129M 2
 TE-131M 2
 TE-132 2
 I-131 1
 I-132 1
 I-133 1
 I-134 1
 I-135 1
 XE-133 4
 XE-135 4
 CS-134 1
 CS-136 1
 CS-137 1
 BA-139 1
 BA-140 1
 LA-140 2
 LA-141 2
 LA-142 2
 CE-141 3

CE-143 3
 CE-144 3
 PR-143 3
 ND-147 3
 NP-239 2
 PU-238 3
 PU-239 3
 PU-240 3
 PU-241 3
 AM-241 2
 CM-242 2
 CM-244 2
 INHCLS(1)= 3
 INHCLS(2)= 3
 INHCLS(3)= 4
 INHCLS(4)= 4
 INHCLS(5)= 4
 INHCLS(6)= 4
 INHCLS(7)= 1
 INHCLS(8)= 1
 INHCLS(9)= 1
 INHCLS(10)= 1
 INHCLS(11)= 1
 INHCLS(12)= 3
 INHCLS(13)= 3
 INHCLS(14)= 3
 INHCLS(15)= 3
 INHCLS(16)= 2
 INHCLS(17)= 2
 INHCLS(18)= 3
 INHCLS(19)= 3
 INHCLS(20)= 2
 INHCLS(21)= 3
 INHCLS(22)= 3
 INHCLS(23)= 3
 INHCLS(24)= 3
 INHCLS(25)= 2
 INHCLS(26)= 2
 INHCLS(27)= 2
 INHCLS(28)= 2
 INHCLS(29)= 2
 INHCLS(30)= 2
 INHCLS(31)= 2
 INHCLS(32)= 2
 INHCLS(33)= 1
 INHCLS(34)= 1
 INHCLS(35)= 1
 INHCLS(36)= 1
 INHCLS(37)= 1
 INHCLS(38)= 4
 INHCLS(39)= 4
 INHCLS(40)= 1
 INHCLS(41)= 1
 INHCLS(42)= 1
 INHCLS(43)= 1
 INHCLS(44)= 1
 INHCLS(45)= 2
 INHCLS(46)= 2
 INHCLS(47)= 2
 INHCLS(48)= 3
 INHCLS(49)= 3
 INHCLS(50)= 3
 INHCLS(51)= 3
 INHCLS(52)= 3
 INHCLS(53)= 2
 INHCLS(54)= 3
 INHCLS(55)= 3
 INHCLS(56)= 3
 INHCLS(57)= 3
 INHCLS(58)= 2
 INHCLS(59)= 2
 INHCLS(60)= 2

Decay Chain # Co-58

Decay Chain # Co-58

Decay Chain # Co-60
 Decay Chain # Kr-85
 Decay Chain # Kr-85m
 Decay Chain # Kr-87
 Decay Chain # Kr-88 Rb-88
 Fraction of Kr-88 going to Rb-88 in this chain = 1.000000
 Decay Chain # Rb-86
 Decay Chain # Sr-89
 Decay Chain # Sr-90
 Decay Chain # Sr-91 Y-91m
 Fraction of Sr-91 going to Y-91m in this chain = 0.578000
 Decay Chain # Sr-92
 Decay Chain # Y-90
 Decay Chain # Y-91
 Decay Chain # Y-92
 Decay Chain # Y-93
 Decay Chain # Zr-95
 Decay Chain # Nb-97
 Decay Chain # Zr-97 Nb-97m
 Fraction of Zr-97 going to Nb-97m in this chain = 0.947000
 Decay Chain # Nb-95
 Decay Chain # Mo-99
 Decay Chain # Tc-99m
 Decay Chain # Ru-103 Rh-103m
 Fraction of Ru-103 going to Rh-103m in this chain = 0.997000
 Decay Chain # Ru-105
 Decay Chain # Ru-106 Rh-106
 Fraction of Ru-106 going to Rh-106 in this chain = 1.000000
 Decay Chain # Rh-105
 Decay Chain # Sb-127
 Decay Chain # Sb-129
 Decay Chain # Te-127
 Decay Chain # Te-127m
 Decay Chain # Te-129
 Decay Chain # Te-129m
 Decay Chain # Te-131m Te-131
 Fraction of Te-131m going to Te-131 in this chain = 0.222000
 Decay Chain # Te-132
 Decay Chain # I-131
 Decay Chain # I-132
 Decay Chain # I-133

Decay Chain # I-134

Decay Chain # I-135 Xe-135m
 Fraction of I-135 going to Xe-135m in this chain = 0.154000

Decay Chain # Xe-133

Decay Chain # Xe-135

Decay Chain # Cs-134

Decay Chain # Cs-136

Decay Chain # Cs-137 Ba-137m
 Fraction of Cs-137 going to Ba-137m in this chain = 0.946000

Decay Chain # Ba-139

Decay Chain # Ba-140

Decay Chain # La-140

Decay Chain # La-141

Decay Chain # La-142

Decay Chain # Ce-141

Decay Chain # Ce-143

Decay Chain # Ce-144 Pr-144m
 Fraction of Ce-144 going to Pr-144m in this chain = 0.017800

Decay Chain # Pr-144

Decay Chain # Pr-143

Decay Chain # Nd-147

Decay Chain # Np-239

Decay Chain # Pu-238

Decay Chain # Pu-239

Decay Chain # Pu-240

Decay Chain # Pu-241

Decay Chain # Am-241

Decay Chain # Cm-242

Decay Chain # Cm-244

CPU TIMES (S) FOR FOLLOWING SUBROUTINES:

IN EXTERN	=	1.82
IN INTERN	=	4.99
IN SAVINT	=	0.06
IN SAVEXT	=	16.37
IN SAVE	=	0.22
TOTAL	=	21.64

APPENDIX B: DOSFAC2 SAMPLE USER INPUT FILE

* DOSFAC2 input file DEFAULT.SEL, incorporating the program's internal
* defaults in a user-supplied file as a starting point for
* modification.

* A RECORD IDENTIFIER IS SPECIFIED IN THE FIRST 11 COLUMNS OF EACH
* DATA
* INPUT LINE. RECORD IDENTIFIERS ARE DESCRIBED IN THE DOSFAC2 USERS
* GUIDE.

* THE LIST OF ACUTERBE00# AND WTRAC0000# ORGANS MUST BE IDENTICAL.
* ACUTE DOSE ORGANS MUST BE IDENTIFIED WITH A .TRUE. ACUTE_DOSE
* VALUE.

* RBE VALUES FOR THYROIDH, EDEWBODY, AND ICRP60ED ARE BUILT INTO
* THE DOSFAC PROGRAM AND CANNOT BE CHANGED THROUGH THIS INPUT FILE.

* Specify Acute_Dose (.TRUE. or .FALSE.) and RBE_Life_HighLET:

*HARD-WIRED

*ORGAN LIST Acute_Dose RBE_Life_HighLET

*ORGAN LIST	Acute_Dose	RBE_Life_HighLET
STOMACH__01	.TRUE.	20.
SMALL_IN_02	.TRUE.	20.
LUNGS____03	.TRUE.	20.
RED_MARR_04	.TRUE.	20.
THYROID__05	.FALSE.	20.
LOWER_LI_06	.TRUE.	20.
BONE_SUR_07	.FALSE.	20.
BREAST___08	.FALSE.	20.
TESTES___09	.FALSE.	20.
OVARIES__10	.FALSE.	20.
ADRENALS_11	.FALSE.	20.
BLAD_WAL_12	.FALSE.	20.
KIDNEYS__13	.FALSE.	20.
LIVER____14	.FALSE.	20.
PANCREAS_15	.FALSE.	20.
SPLEEN___16	.FALSE.	20.
THYMUS___17	.FALSE.	20.

* LIST ORGANS GIVEN A .TRUE. ACUTE_DOSE VALUE ABOVE AND SPECIFY
* RBE_ACUTE_HIGHLET

* Acute_Name RBE_Acute_HighLET

* Acute_Name	RBE_Acute_HighLET
ACUTERBE001 'STOMACH'	10.
ACUTERBE002 'SMALL IN'	10.
ACUTERBE003 'LUNGS'	10.
ACUTERBE004 'RED MARR'	10.
ACUTERBE005 'LOWER LI'	10.

```

*****
      *****
*
* Define the particle size diameter in units of microns AMAD.  The
      particle
* size must be one of the following diameters: 0.2, 0.3, 0.4, 0.5,
      0.6, 0.7,
* 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.
*
Partcl_AMAD 1.0
*****
      *****
*
* Specify WTRAC for each of the 18 commitment periods.  The maximum
      number
* of columns each line of information may contain is 150 columns.
      The data
* for each organ must not exceed one line length.
*
*           Acute_Name  WTRAC values for each of the 18 commitment
      periods extending to 50 years
*
WTRAC00001 'STOMACH' 1.0 0.37 0.37 0.0 0.0 0.0 0.0 0.0 0.0 0.0
      0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
WTRAC00002 'SMALL IN' 1.0 0.43 0.43 0.0 0.0 0.0 0.0 0.0 0.0 0.0
      0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
WTRAC00003 'LUNGS' 1.0 .0625 .0625 .0625 .0625 .027 .027 .027
      .027 .027 .027 .01087 0.0 0.0 0.0 0.0
WTRAC00004 'RED MARR' 1.0 0.5 0.5 0.5 0.5 .25 .25 .25 .25
      0.0 0.0 0.0 0.0 0.0 0.0 0.0
WTRAC00005 'LOWER LI' 1.0 0.43 0.43 0.0 0.0 0.0 0.0 0.0 0.0 0.0
      0.0 0.0 0.0 0.0 0.0 0.0 0.0
*****
      *****
* Define Inhalation Clearance Class (INHCLS). INHCLS is the only
      column
* in this section which can be modified without creating a run
      error.
*
*           HARDWIRED
*           LIST OF
*           RADIONUCLIDES      INHCLS
*
DFINHCLS001 CO-58 3
DFINHCLS002 CO-60 3
DFINHCLS003 KR-85 4
DFINHCLS004 KR-85M 4
DFINHCLS005 KR-87 4
DFINHCLS006 KR-88 4
DFINHCLS007 RB-86 1
DFINHCLS008 SR-89 1
DFINHCLS009 SR-90 1
DFINHCLS010 SR-91 1
DFINHCLS011 SR-92 1

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DFINHCLS012	Y-90	3
DFINHCLS013	Y-91	3
DFINHCLS014	Y-92	3
DFINHCLS015	Y-93	3
DFINHCLS016	ZR-95	2
DFINHCLS017	ZR-97	2
DFINHCLS018	NB-95	3
DFINHCLS019	MO-99	3
DFINHCLS020	TC-99M	2
DFINHCLS021	RU-103	3
DFINHCLS022	RU-105	3
DFINHCLS023	RU-106	3
DFINHCLS024	RH-105	3
DFINHCLS025	SB-127	2
DFINHCLS026	SB-129	2
DFINHCLS027	TE-127	2
DFINHCLS028	TE-127M	2
DFINHCLS029	TE-129	2
DFINHCLS030	TE-129M	2
DFINHCLS031	TE-131M	2
DFINHCLS032	TE-132	2
DFINHCLS033	I-131	1
DFINHCLS034	I-132	1
DFINHCLS035	I-133	1
DFINHCLS036	I-134	1
DFINHCLS037	I-135	1
DFINHCLS038	XE-133	4
DFINHCLS039	XE-135	4
DFINHCLS040	CS-134	1
DFINHCLS041	CS-136	1
DFINHCLS042	CS-137	1
DFINHCLS043	BA-139	1
DFINHCLS044	BA-140	1
DFINHCLS045	LA-140	2
DFINHCLS046	LA-141	2
DFINHCLS047	LA-142	2
DFINHCLS048	CE-141	3
DFINHCLS049	CE-143	3
DFINHCLS050	CE-144	3
DFINHCLS051	PR-143	3
DFINHCLS052	ND-147	3
DFINHCLS053	NP-239	2
DFINHCLS054	PU-238	3
DFINHCLS055	PU-239	3
DFINHCLS056	PU-240	3
DFINHCLS057	PU-241	3
DFINHCLS058	AM-241	2
DFINHCLS059	CM-242	2
DFINHCLS060	CM-244	2