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Knowledge of the dielectric properties of biological materials is of importance in solving electromagnetic interaction problems. There is, as yet, no consensus on such data among scientists dealing with these issues. This project is geared towards producing a database of dielectric data based on measurements using recently developed techniques. This has been achieved through measurement over a wide frequency range. The new data were evaluated by comparison with corresoonding data from the literature where available. To facilitate the incorporation of the dielectric data in numerical solutions, their frequency dependence was modelled to a spectrum characterised by 4 dispersion regions. The conductivity of tissues below 100 Hz was estimated from the recent measurements mitigated by data from the literature and used to estimate the [illegible] of the whole body and of various body parts.

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INTRODUCTION

Recent developments in the field of electromagnetic dosimetry have produced high resolution anatomically correct man and animal models from medical imaging data for use in numerical simulation exercises. The level of details is such that over 30 tissue types can be identified. The application of such models require that dielectric properties be allocated to the various tissues at all the frequencies to which the model is exposed. There is, as yet, no consensus on the dielectric data. This project is geared towards this objective.

The following has been achieved in the period covered by this report:

- Three experimental techniques were used to measure the dielectric properties of tissue in the frequency range 10 Hz to 20 GHz. Over 20 tissue types were measured over the full frequency range and over 10 others measured down to 1 MHz only.

- Internal consistency between the three sets of data was demonstrated in the overlapping frequency regions. When measurements are made on the same sample throughout, the agreement between data sets is particularly good.

- A comprehensive survey of dielectric data published over more 45 years has been carried out and presented for comparison purposes. The data obtained in the course of this study fall well within the vast body of literature data where available and bridge the gaps within it.

- To facilitate the incorporation of the dielectric data in numerical solutions, their frequency dependence was modelled to a spectrum characterised by 4 dispersion regions. This model was successfully applied to the new experimental data.

- Finally, the conductivity of tissues below 100 Hz was estimated from the recent measurements mitigated by data from the literature and used to estimate the conductivity of the whole body and of various body parts.

The work is briefly described in this report, the data are presented in graphical and tabular format in Appendices A to D.

EXPERIMENTAL TECHNIQUES

Techniques

The dielectric measurements were performed using automatic swept frequency network and impedance analysers. For the frequency range 10 Hz to 10 MHz, an HP4192A impedance analyser. An HP 8753C covered the frequency range 300 kHz to 3 GHz and an HP8720 measured from 130 MHz to 20 GHz. Open ended coaxial probes were used to interface the measuring equipment with the samples in all cases.

The technique used with the HP8700 series network analysers has been reported in details elsewhere (Gabriel et al 1994) and will not be discussed further. The techniques used in conjunction with the impedance analyser will be briefly described.

A 50 Ω impedance matched conical coaxial probe was adapted (Gabriel and Grant 1988) to interface the sample to the HP4192A impedance analyser. The probe is characterised by a fringing capacitance C and conductance G which are a function of its physical dimension and can be measured with the impedance analyser. The characteristic parameters of the probe were calculated from measurements of the impedance components of the probe in air and in a standard sample (water or salt solution). In principle, the dielectric properties (permittivity ε' and conductivity σ) of an unknown sample can then be calculated from measurements of the impedance of the probe against an unknown sample using the following relationships where ε_0 is the permittivity of free space

$$\varepsilon' = \frac{C}{K}$$
$$\sigma = \frac{G\varepsilon_0}{K} \qquad (1)$$

In practice, the measurement of conductive materials in the frequency range 10 Hz to 10 MHz are not so straightforward. The measurements are affected by two sources of systematic errors, electrode polarisation and lead inductance errors, which become apparent at the lower and higher ends of the frequency range under consideration.

Electrode polarisation is a manifestation of molecular charge organisation which occur at the sample-electrode interface in presence of water molecules and hydrated ions. In its simplest forms the phenomenon is equivalent to a frequency dependent capacitor in series with a resistor. Both components can be approximated by negative power functions of frequency, that is their absolute values decrease with increasing frequency. The effect increases with increasing sample conductivity and its consequences are more pronounced on the capacitance than the conductance of ionic solutions as well as biological samples (Schwan 1992). In the case of biological samples, the poorly conducting cells

shield part of the electrode from the ionic current thus reducing the polarisation effects compared to an ionic solution equivalent in conductivity to the intracellular fluid.

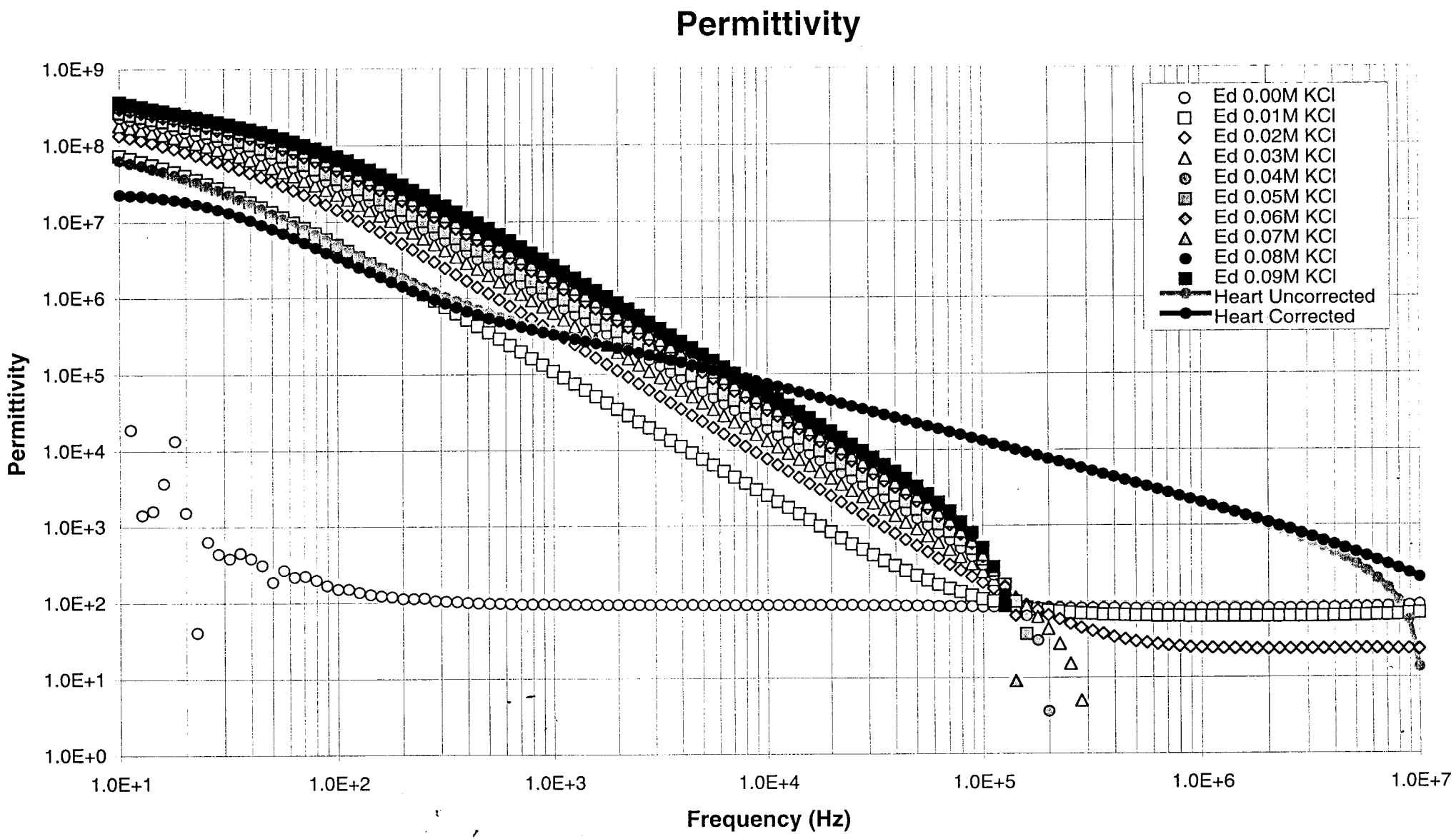
The material of the electrode plays an important part in determining its polarisation impedance. In the current study gold plated and sputted platinum electrodes were tested and a choice was made in favour of the latter. The effect of the rough platinum surface was to shift the electrode polarisation effect to lower frequencies and thus to reduce its contribution in the frequency range under consideration.

The inductance of the probe and connecting cable add another series component to the measured impedance. Its value could be determined from measurements on standard salt solutions and applying an equivalent circuit analysis. For the present setup the stray inductance is $L=2\cdot10^{-7}$ henry and the following equations were used to account for it

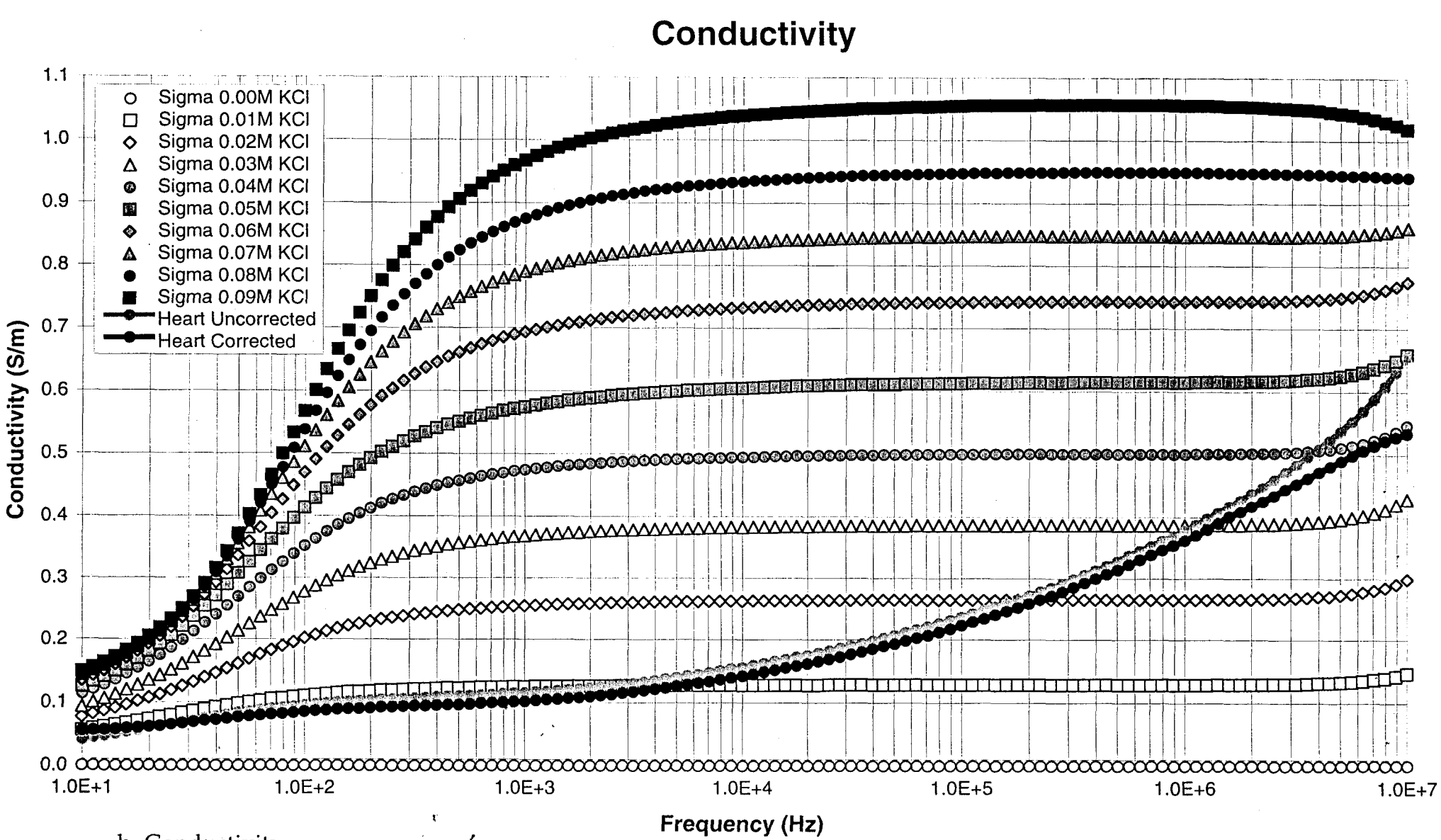
$$C = \frac{C_m + LG_m\omega^2 LC_m^{\,2}}{\left(1+\omega^2 LC_m\right)^2 + \left(\omega LC_m\right)^2}$$
$$G = \frac{G_m}{\left(1+\omega^2 LC_m\right)^2 + \left(\omega LC_m\right)^2} \qquad (2)$$

where C and G are the corrected capacitance and conductance expressed in terms of the measured values C_m and G_m , the lead inductance L and the angular frequency ω. The effect of the stray inductance increases with frequency and with sample conductivity.

Figures 1a and b show the effect of electrode polarisation and the stray inductance on the uncorrected permittivity and conductivity of a series of salt solutions ranging from zero molar (deionised water) to 0.09 molar. The high permittivity values at low frequencies are a manifestation of electrode polarisation while negative permittivity values at high frequency show the effect of the stray inductance. Superimposed on these data are the uncorrected permittivity and conductivity of a tissue sample (heart tissue). It can be seen that the low frequency conductivity of the tissue is less than that of 0.01 molar salt solution. It is therefore reasonable to assume that the effect of electrode polarisation on the tissue is also less than that exhibited by the 0.01 molar salt sample. A further observation indicates that the errors in the permittivity and conductivity of the sample are likely to be apparent below 1 kHz and significant below 100 Hz while the effect of inductance manifests above a few megahertz in the case of tissue samples.



a. Permittivity



b. Conductivity

Figure 1. Uncorrected values of the permittivity and conductivity of a series of salt solutions. Also shown are the corrected and uncorrected data for heart tissue at 37°C.

To correct for electrode polarisation and induction errors the capacitance and conductance of the tissue sample are evaluated in accordance with (2) and normalised to a salt solution of similar low frequency conductivity. The example in Figures 1a and b was corrected with reference to a 0.005 molar salt solution, the corrected dielectric properties are shown for comparison purposes. All impedance analyser tissue measurements were treated in a similar manner.

Uncertainties

The measurement techniques and associated instrumentation used in this study give random reproducibility of about 1% across the frequency range. This statement is based on multiple measurements carried out on standard samples of uniform composition. Biological tissues are inhomogeneous and show considerable variability in structure or composition and hence in dielectric properties. Such variations are natural and may be due to physiological processes or other functional requirements. The spread of values ranges from about ±5% above 100 MHz to ±15% at the lower end of the frequency scale.

Care has been taken to eliminate all known sources of systematic errors, however, in view of the assumptions made in correcting for electrode polarisation it is possible that the dielectric parameters below 1 kHz may be undercorrected. This source of errors may affect the dielectric parameters by up to a factor of two.

Materials

Three sources of materials were used:
1.Excised animal tissue, mostly ovine, from freshly killed sheep.
2.Human autopsy materials
3.Human skin and tongue in vivo.

All animal tissues were used as fresh as possible, mostly within two hours of death, human material was obtained 24 to 48 hours after death. The conical probe used in conjunction with the impedance analyser requires relatively large samples, at least a cube of 5 cm linear dimension. In view of this requirement not all samples could be measured at low frequencies.

RESULTS

Measurements Across The Frequency Range

Examples of measurements on the three experimental setup, across the frequency range are given in Appendix A (Figures A1 to A11). The agreement between measurements on the three machines was particularly good when the measurements were made on the same sample throughout. To achieve this objective the two network analysers and the impedance analyser were placed in close proximity to each other and interfaced to the same computer. All the measurement procedures were redesigned to operate through LabView™, a graphics interface medium from National Instruments running on an Intel Pentium microprocessor. In this arrangements the measurements could be carried out on all three machines in quick succession.

The dielectric properties of muscle are known to be anisotropic. The data reported were obtained by measurement on the paravertebral muscle. The sample was measured twice, first with a transverse section against the probe (Figure A9) and then it was cut along the muscle fibre and re-measured (Figure A10). In view of the radial nature of the fringing field of the coaxial probe these measurements do not represent the true limits of the dielectric properties with the field along and across the fibre. They show, however, the effect of fibre direction and the parts of the spectrum influenced by it.

Human material could not be obtained in sufficient quantities for optimum measurements with the conical probe. Under such conditions the measurements on the impedance analyser were consistently lower than those obtained on the network analyser in the same frequency range. Examples of such measurements are given in Figures A12 to A15.

Much smaller samples of human material were measured only in the frequency range above 1 MHz on the two impedance analysers. Examples of such measurements are given in Figures A16 to A19.

Comparison Between Species

The differences in the dielectric properties of animal a human species are not systematic. The variation in tissue properties within a species may well exceed variations between species. Example of comparative measurements are given in Figures 2 to 4.

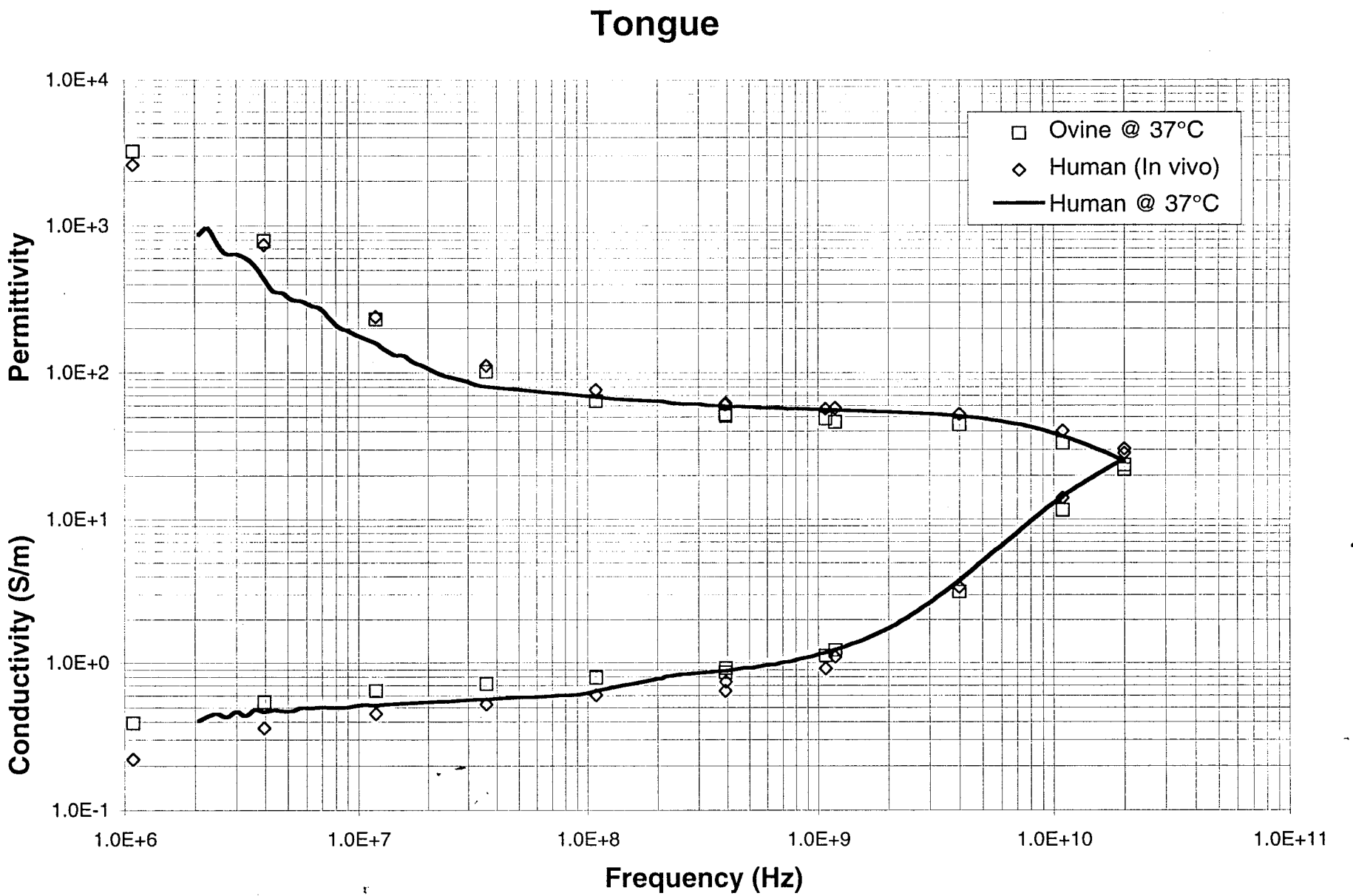


Figure 2. Comparison between the dielectric properties of tongue muscle from animal and human samples.

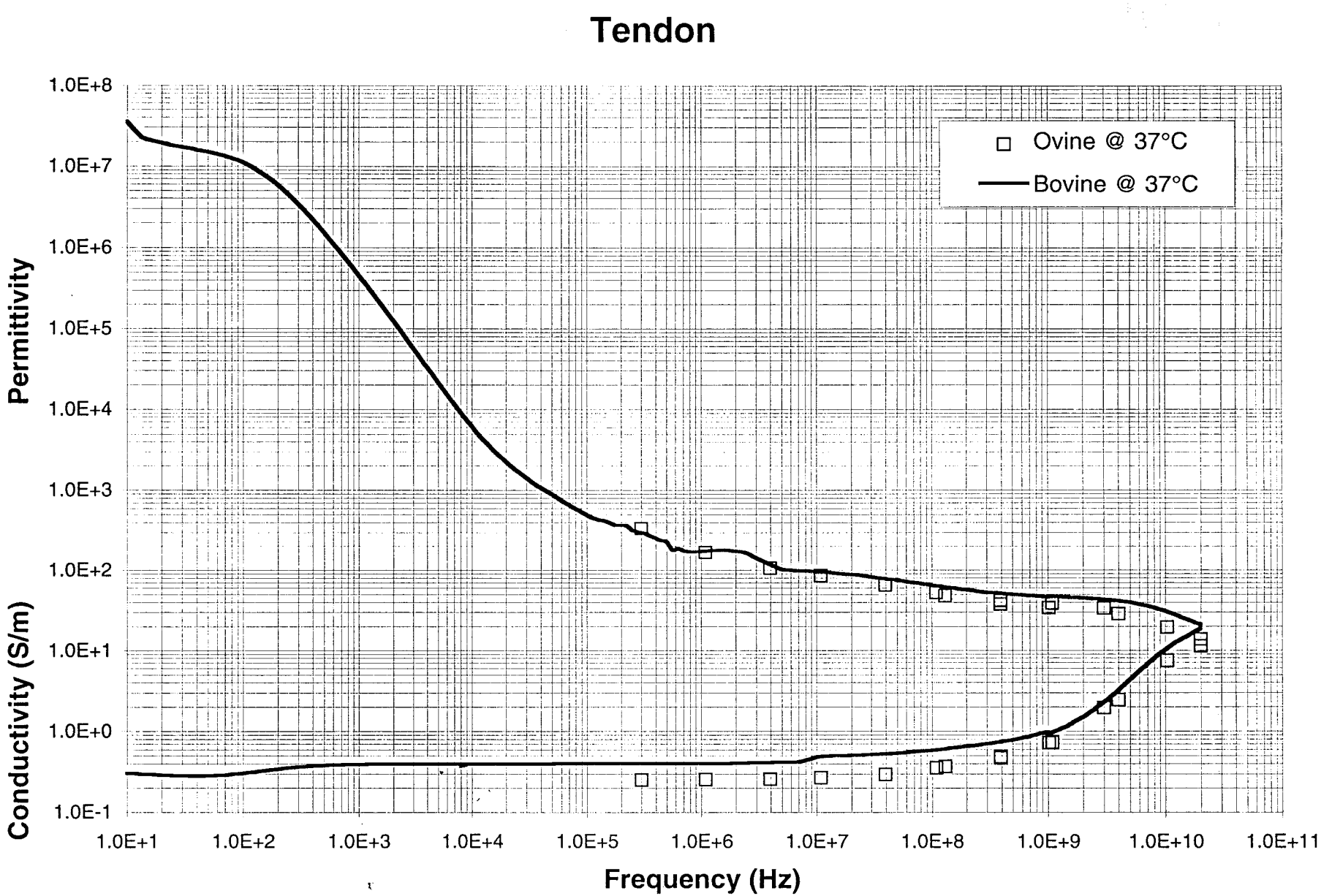


Figure 3. Comparison between the dielectric properties of tendon from two animal species.

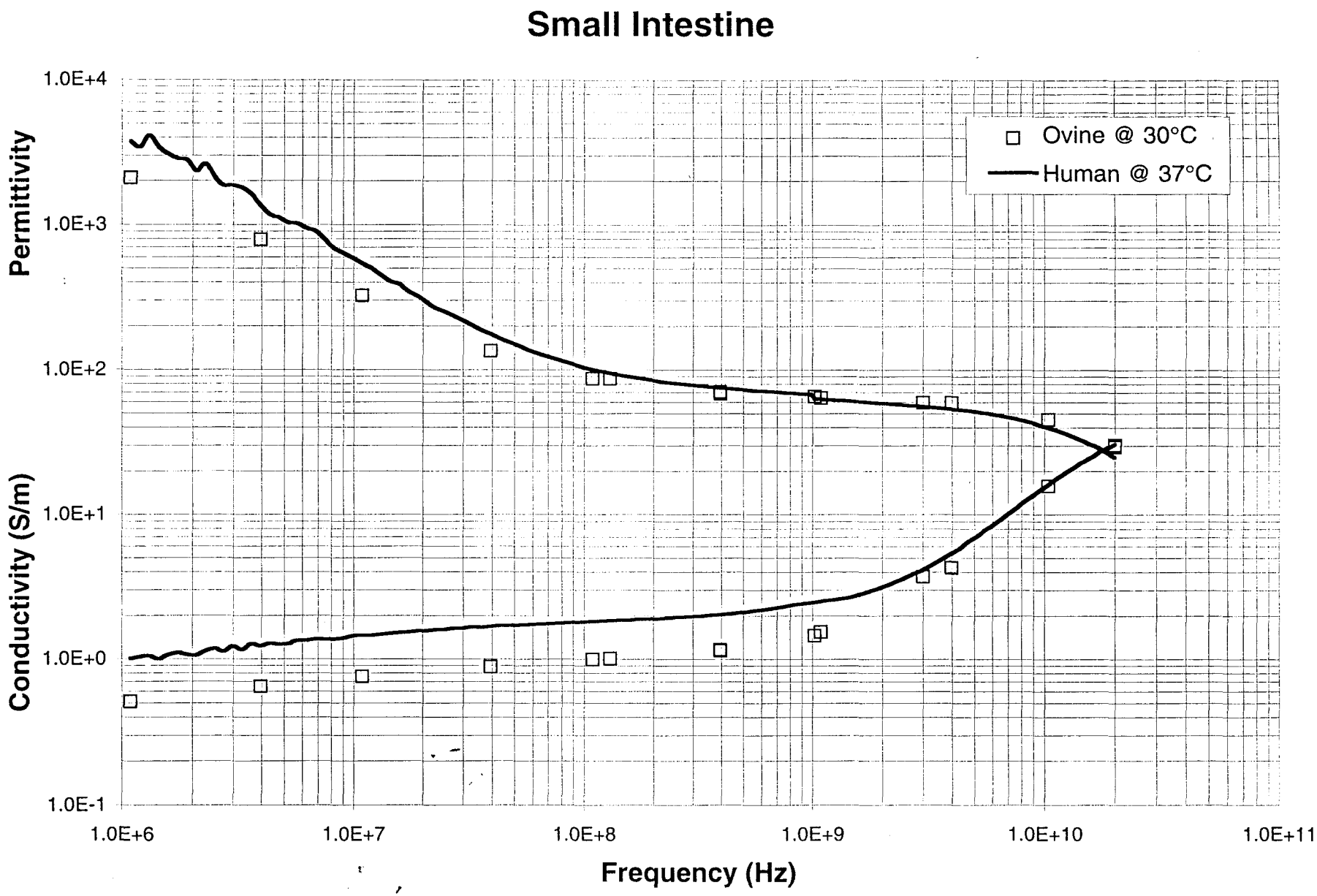


Figure 4. Comparison between the dielectric properties of small intestine tissue from animal and human samples.

LITERATURE SURVEY

Review of the Dielectric Properties of Tissues

The dielectric properties of tissues have been extracted from the literature of the past five decades and compared to the corresponding data from the current study. The purpose is to provide an objective basis for the evaluation of the experimental data and to reach a broad based consensus on the subject.

Reports of dielectric properties of tissues prior to 1950 are difficult to get hold off, they have more historical then practical interest and, with the exception of Osswald (1937), have not been reviewed. The literature in the 1950s and 60s is dominated by the work of H. P. Schwan and his collaborators and has been reviewed and tabulated by Durney et al 1986. Other extensive reviews include Geddes and Baker (1967) who summarised the early reports on the specific resistance of tissues, Stuchly and Stuchly (1980) who tabulated the dielectric properties tissues in the frequency range 10 kHz to 10 GHz Foster and Schwan (1989) who provided a wide historical perspective and Duck (1990) who extended their survey by including more recent data.

In the current survey, data that correspond more closely to living human tissues were selected in preference to any other. Consequently, human tissue and in vivo measurements were selected in preference to animal tissue and in vitro measurements. For in vitro measurements, data obtained at temperatures closest to that of the body and nearest to the time after death were used when available.

Most of the literature data were in graphical rather than table form and in a logarithmic rather than linear format. Such data were retrieved at each decade. When tables were available, a more extensive frequency range was often provided.

The data were translated from the various authors' preferred set of parameters and units to relative permittivity and conductivity expressed in S/m.

Data obtained at temperature as low as 20°C are included in this survey. It was not considered advisable to translate them to body temperature. The temperature coefficients, for both permittivity and conductivity, are tissue-type and frequency dependent. Information on these coefficients is scarce and not sufficiently robust to warrant generalisation and extrapolation. Moreover, the coefficients are highest (~1-2 %/°C) at low frequencies where the uncertainty and the scatter in the data are of a similar or higher order of magnitude than the differences due to a 10 or 15°C.

Presentation of Data

The data are presented in Appendix B in tabular as well as graphical formats. Details of the tissue-type, animal species, measurement temperature and the reference are included in the legend. To facilitate the comparison, the same scale was used for all tissues except where the conductivity of the tissue falls below 10-2 S/m.

The references which data were extracted are included in Appendix B.

DATA ANALYSIS

Parametric Description of the Dielectric Spectrum

One of the aims of this project is to derive models for the frequency dependence of the dielectric properties of the tissues investigated. The basis of the analysis is well known dispersions in the dielectric spectrum of biological materials and their expression as a summation of terms corresponding to the main polarisation mechanisms. The spectrum extends from Hz to GHz and shows 4 dispersion regions. The complexity of the structure and composition of biological material is such that each dispersion region is broadened by multiple contributions to it and could be described by a Cole Cole expression. The model corresponding to the whole spectrum

$$\varepsilon(\omega) = \varepsilon_\infty + \sum_{n=1}^{4} \frac{\Delta\varepsilon_n}{1+(j\omega\tau_n)^{(1-\alpha_n)}} + \sigma_i / j\omega\varepsilon_0 \qquad (3)$$

in which, ε_∞ is the permittivity in the terahertz frequency range, σ_i is the ionic conductivity, for each dispersion region τ is the relaxation time and $\Delta\varepsilon$ is the drop in permittivity in the frequency range corresponding to $1 >> \omega\tau >> 1$.

With a choice of parameters appropriate to each tissue, (3) could be used to predict its dielectric behaviour over the desired frequency range.

The parameters of the model were adjusted to correspond to a close fit between the model and the most comprehensive data set available for the particular tissue.

The 4-Cole-Cole model describes the frequency dependence of the dielectric properties in the frequency range from Hz to GHz. It can be used with confidence for frequencies above 1 MHz. At lower frequencies, where the literature values are scarce and have larger than average uncertainties, the model should be used with caution in the knowledge that it provides a 'best estimate' based on present knowledge. It is important to stress the limitations of the model particularly where there are no data at all to support its predictions.

The 4-Cole-Cole analysis was carried out on 44 tissue types, the results are presented in a self explanatory manner in Appendix C, the experimental data are

tabulated in Appendix D.

THE DIELECTRIC PROPERTIES BELOW 100 Hz

Electrical properties of Body Tissues

Below 100 Hz the impedance of biological material is mostly resistive. The contribution of the capacitive component is of the order of 10 % in most cases. The literature surveyed in this study shows that there are wide variations in the conductivity values obtained for the same tissue in various studies. The contribution of the tissue permittivity to body current is well within the uncertainty associated with the corresponding tissue conductivity. Therefore, in practice, the estimation of induced current in tissue is based on such conductivity values.

Table 1 gives an estimate for conductivity in S/m of the main body tissues below 100 Hz from this study mitigated by literature values. The values tabulated by Duck (1990) are also shown for comparison . Average values were used where appropriate.

Electrical properties of Body Parts

The values obtained from this study were used to calculate the conductivity of the whole and various parts of the body (Table 2). The necessary integration of the conductivity of tissue to obtain values in table 2 were carried out by allocating the appropriate values to a voxel anatomical human model developed at The National Radiological Protection Board (NRPB) to aid dosimetry work. The model known as NORMAN (normal man) will be described in a future NRPB publication. The results of such an integration carried out at 10 and 100 kHz has also been included for comparison purposes.

Table 1: Estimates of the conductivity (S/m) of body tissues below 100 Hz at body temperature.

Tissue	From Duck 1990	This study
Bladder		0.2
Bone -Cancellous		0.07
Bone -Marrow		0.05
Cartilage		0.18
Cerebro Spinal Fluid	1.81	2.0
Cornea		0.4
Fat		0.04
Gall Bladder Bile	1.6	1.4
Heart	0.2	0.1
Lens		0.25
Lung -Deflated	0.1	0.2
Muscle	0.4	0.35
Pancreas	0.13	0.22
Small Intestine		0.5
Stomach		0.5
Testis		0.4
Tongue		0.3
Blood	0.68	0.7
Bone -Cortical	0.02	0.02
Breast		0.06
Cerebellum		0.1
Colon		0.1
Dura		0.5
White matter	0.1	0.06
Grey Matter	0.3	0.1
Kidney	0.9	0.1
Liver	0.12	0.07
Lung -Inflated	0.05	0.08
Nerve	0.4	0.03
Skin -Wet		0.1
Spleen		0.1
Tendon		0.3
Urine	3.3	
Vitreous Humour		1.5
Thyroid		0.5

Table 2: Conductivity, in S/m, of the whole and parts of the body obtained by integrating the conductivity values in Table 1 over

	Whole body	Head	Torso	Arm	Leg	Neck
50 Hz	0.216	0.254	0.223	0.195	0.196	
10 kHz	0.276	0.285	0.256		0.238	0.222
100 kHz	0.288	0.30	0.332		0.239	0.243

CONCLUSIONS

The main purpose of this project is to compile a database of dielectric properties of tissues for use by the scientific community in solving electromagnetic interaction problems. This has been achieved through measurement in the frequency rang 10 Hz to 20 GHz and modelling the frequency dependence of the dielectric properties of over 30 body tissues to parametric expressions for inclusion in numerical solutions.

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APPENDIX A: Experimental data

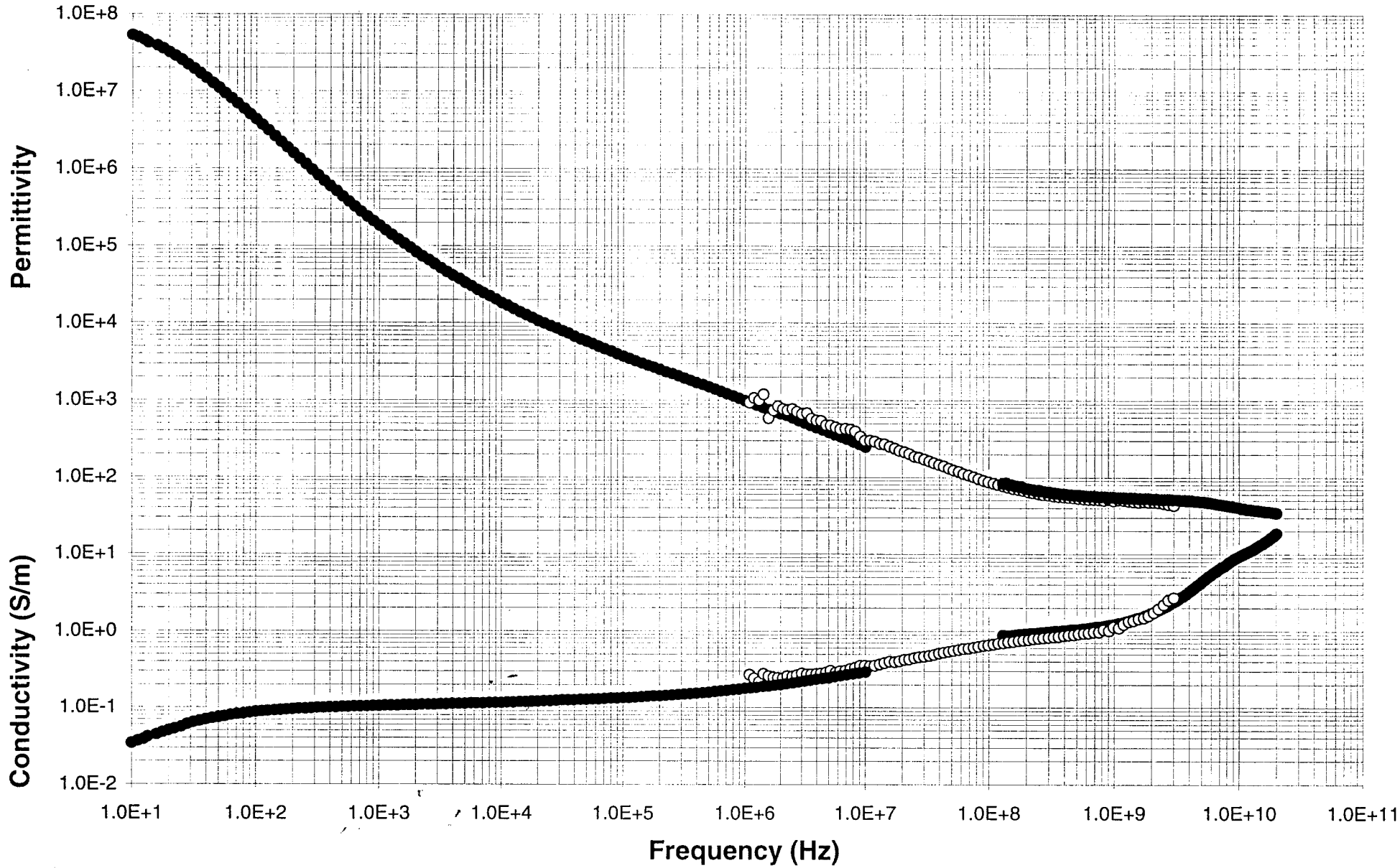
Example of measurements from 10 Hz to 20 GHz

A1: Grey Matter
A2: White matter
A3: Heart
A4: Kidney
A5: Liver
A6: Lung (Inflated)
A7: Spleen
A8: Uterus
A9: Muscle Transverse
A10: Muscle Parallel
A11: Skin Wet

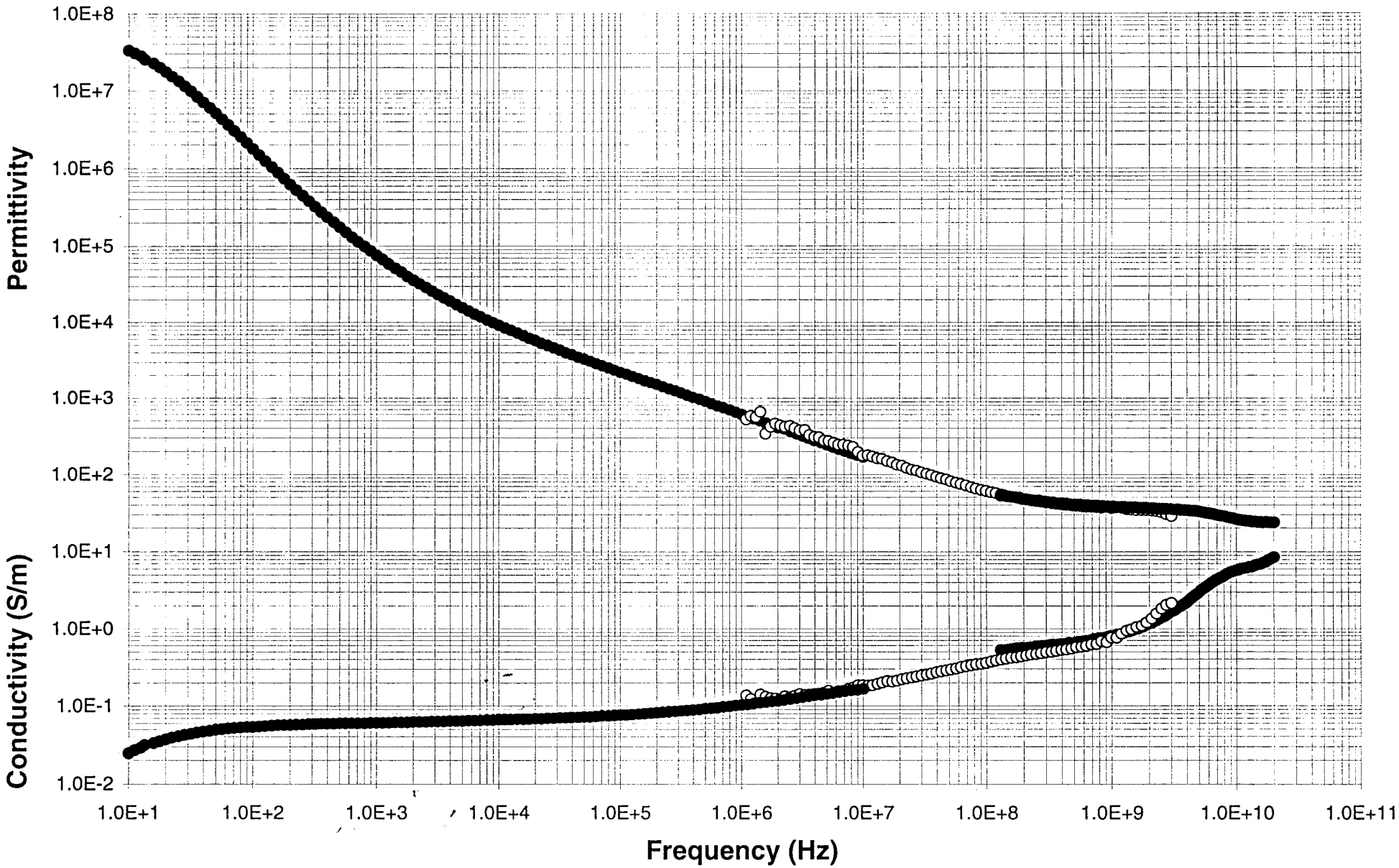
A12: Aorta
A13: Bone Cancellous
A14: Cervix
A15: Breast Fat

A16: Thyroid
A17: Testis
A18: Ovary
A19: Bladder

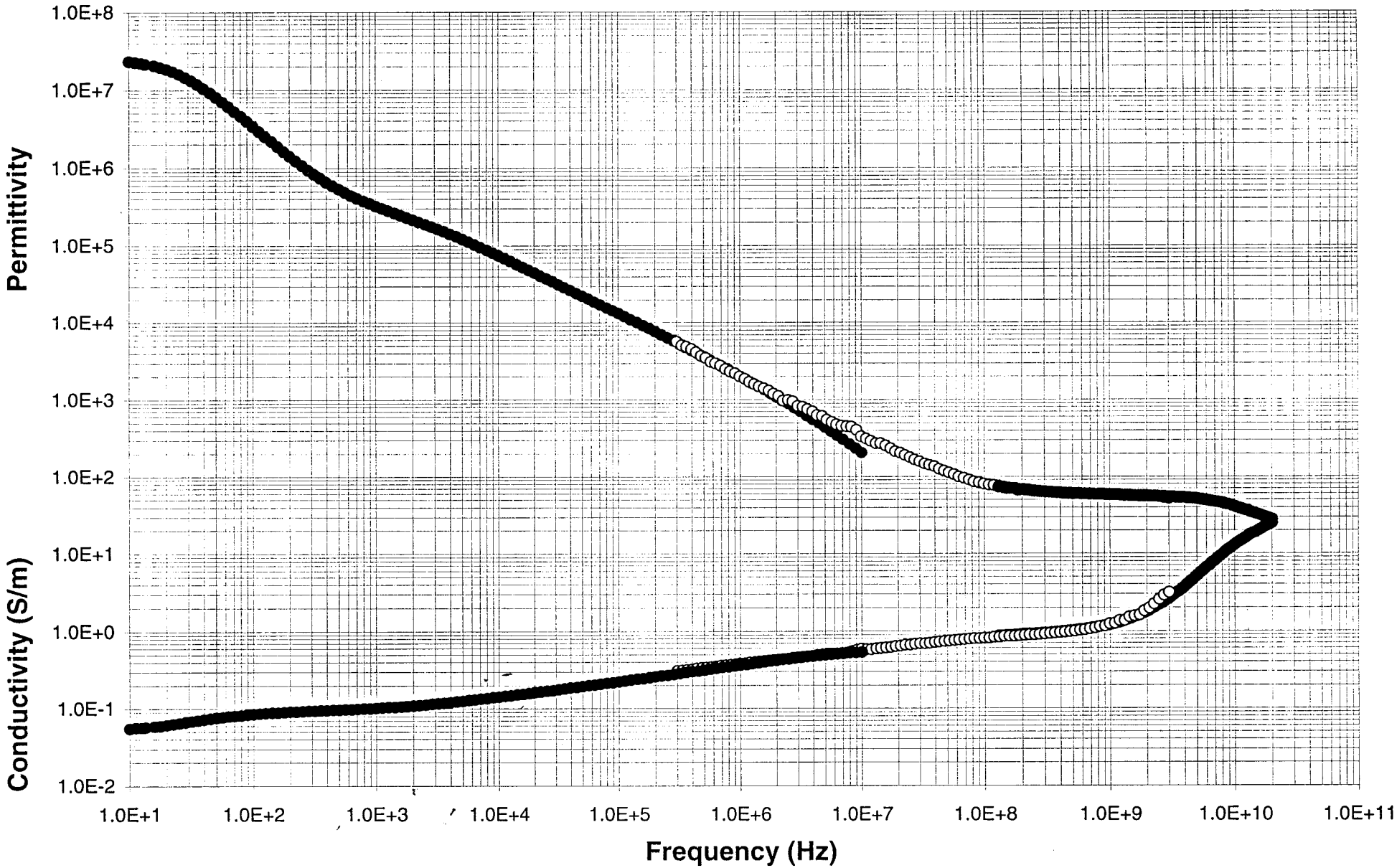
Grey Matter


Permittivity
1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

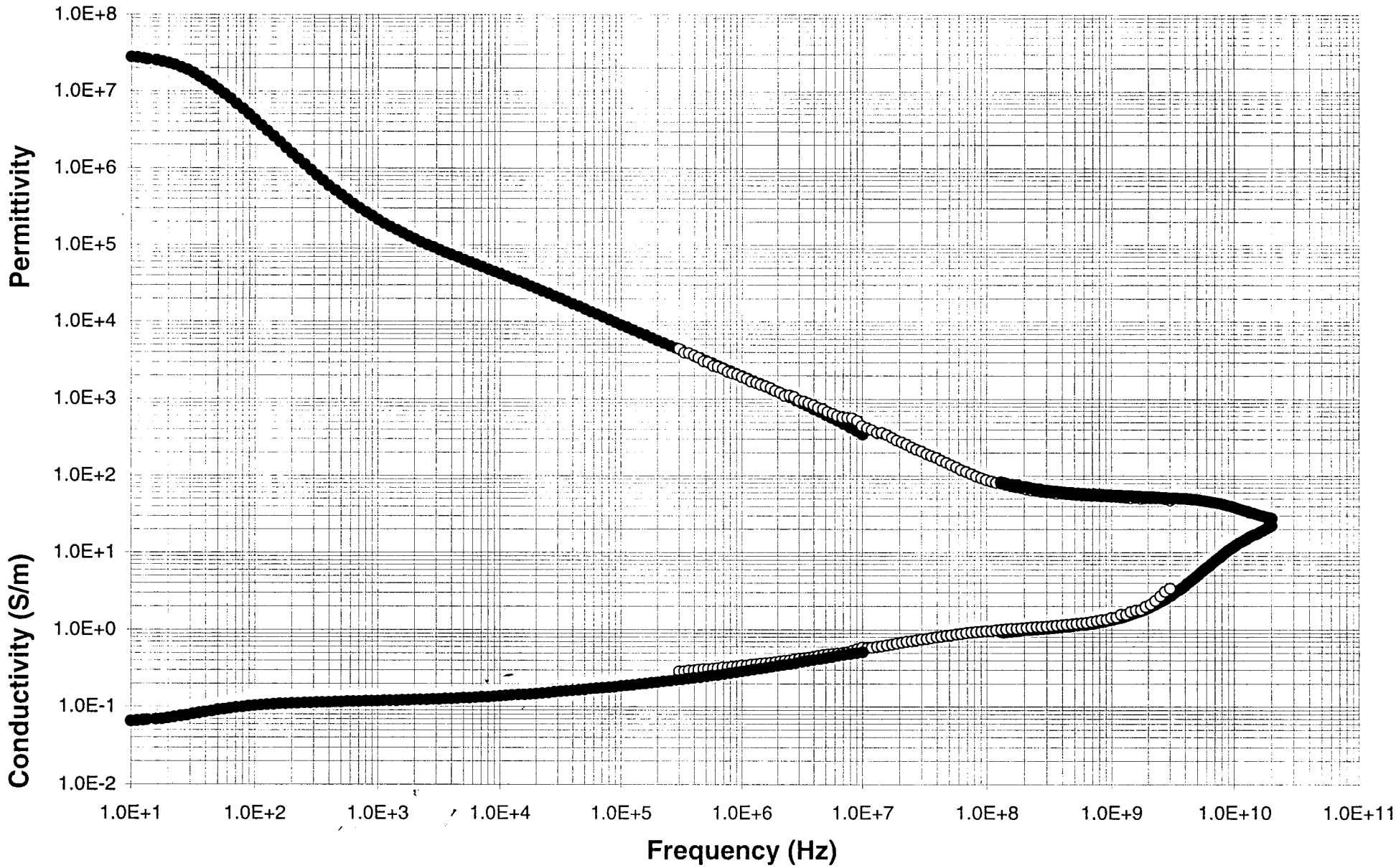
White Matter



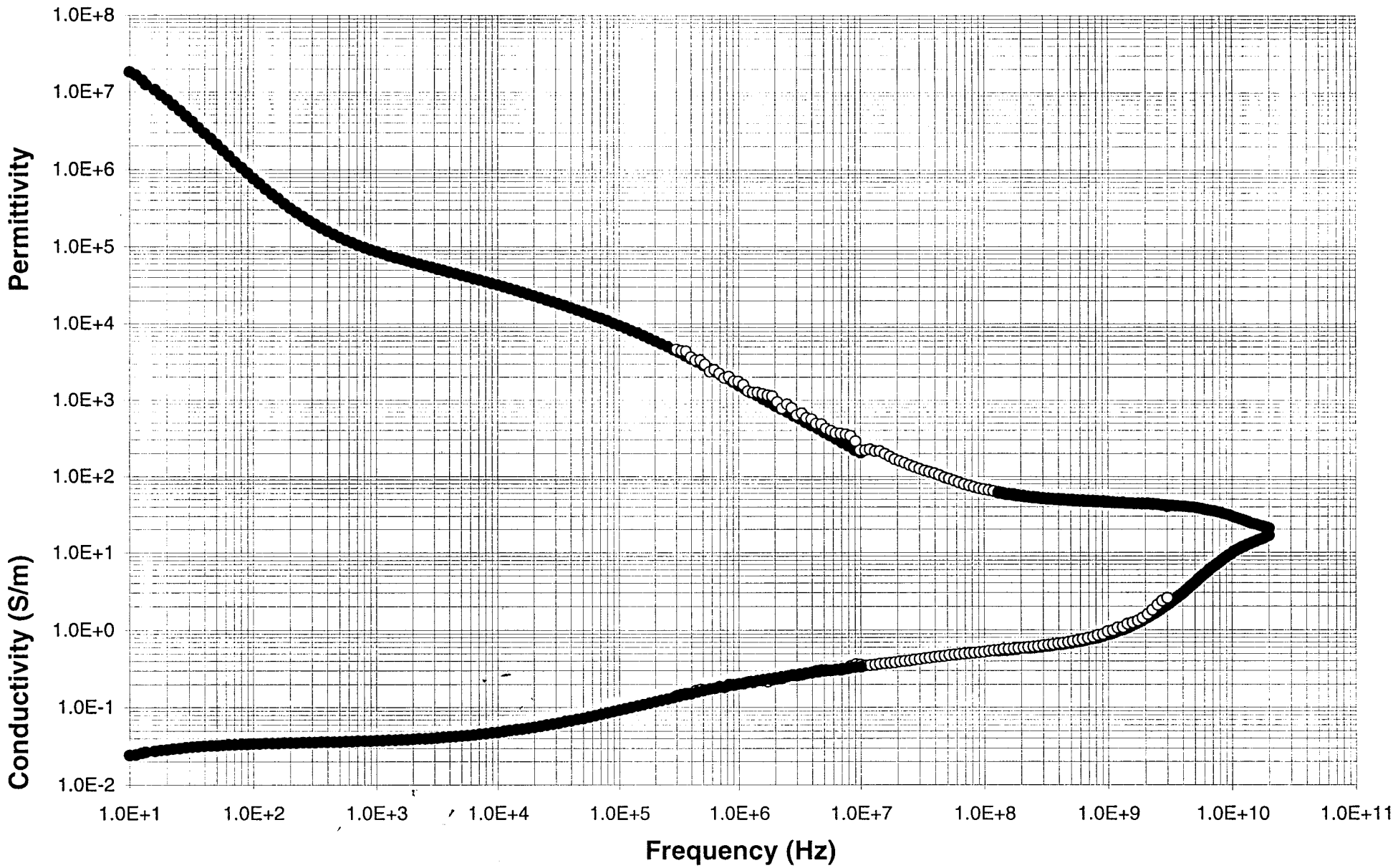
Heart


Permittivity
Conductivity (S/m)
1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

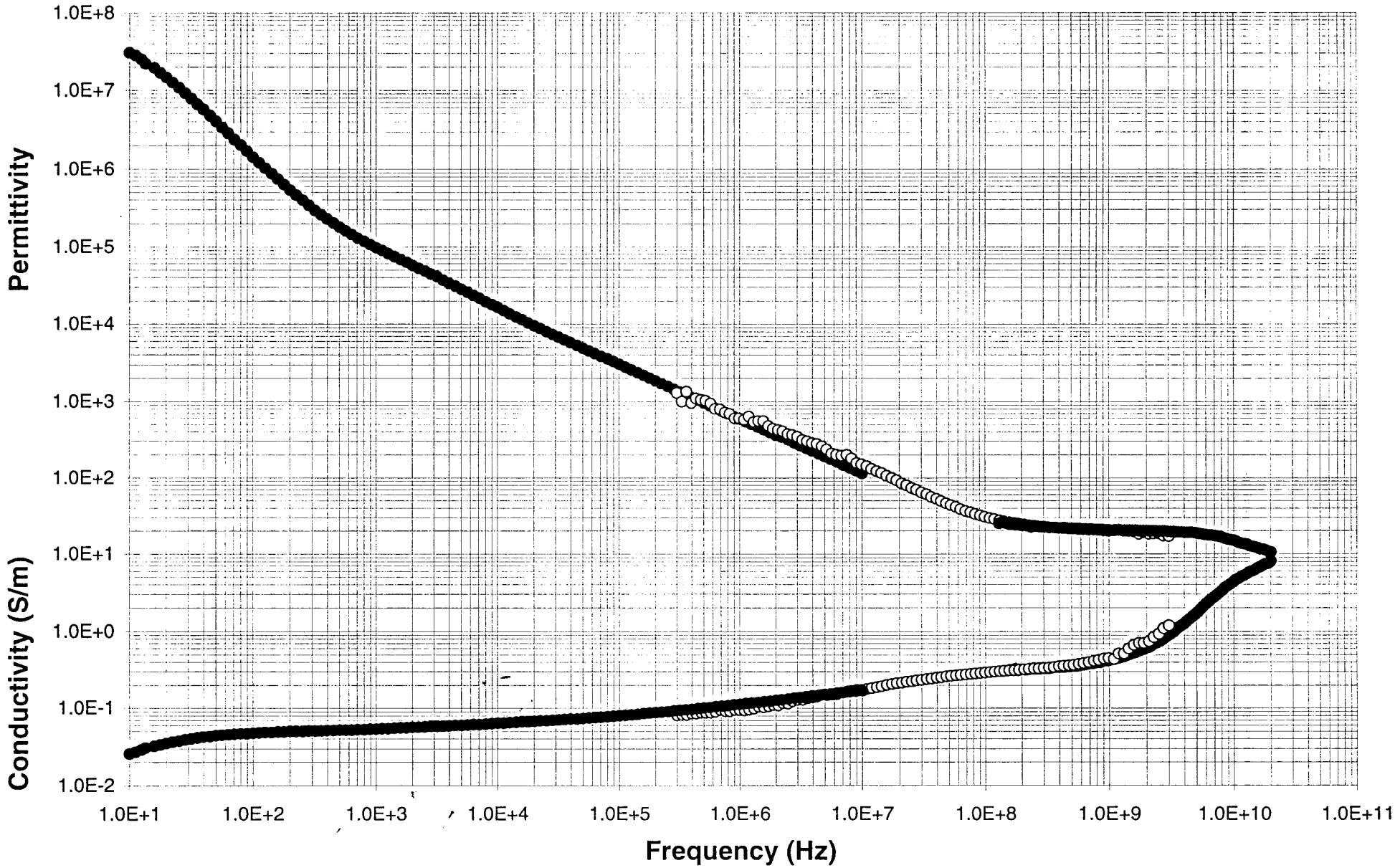
Kidney


Permittivity
1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

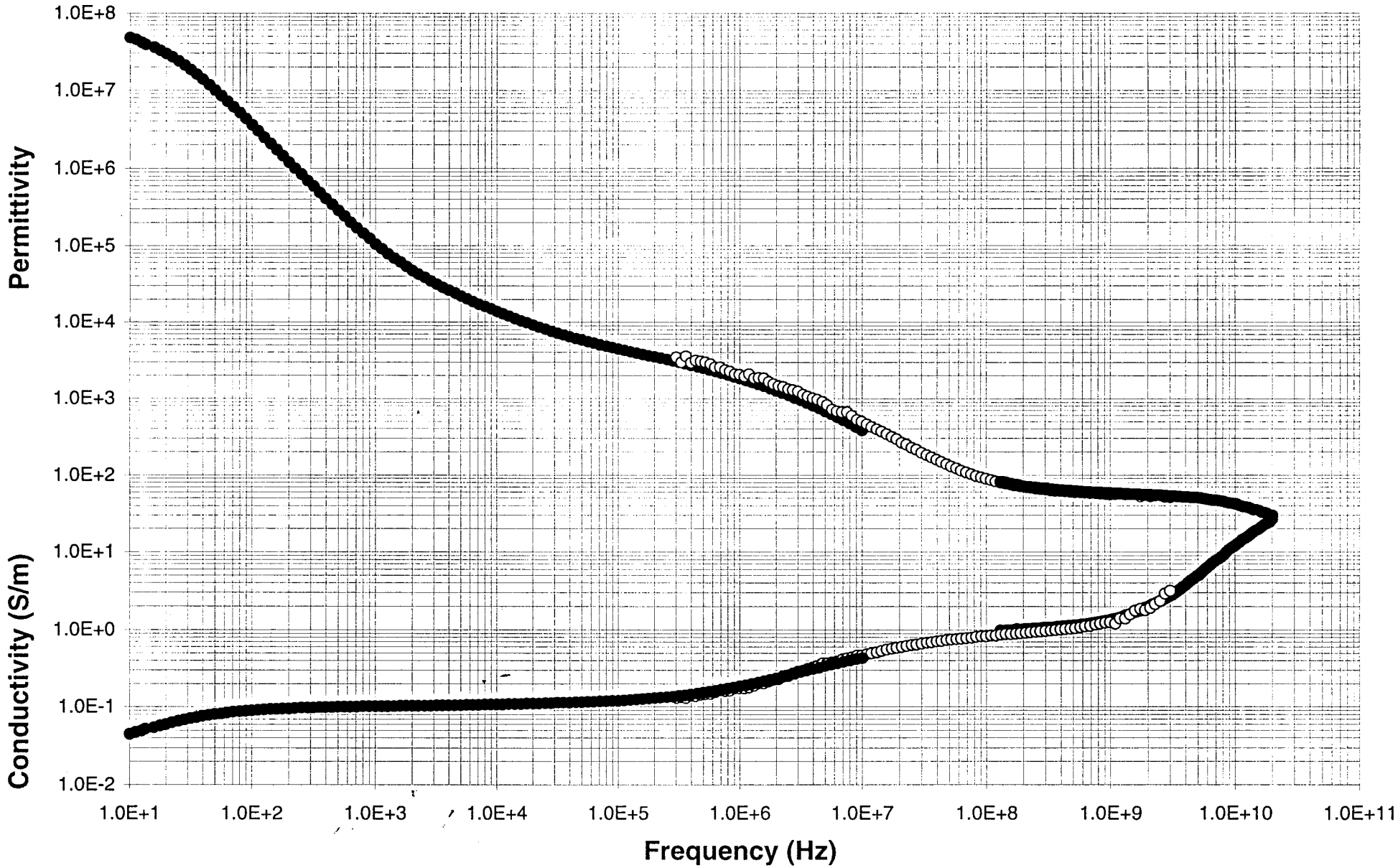
Liver


Permittivity
1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

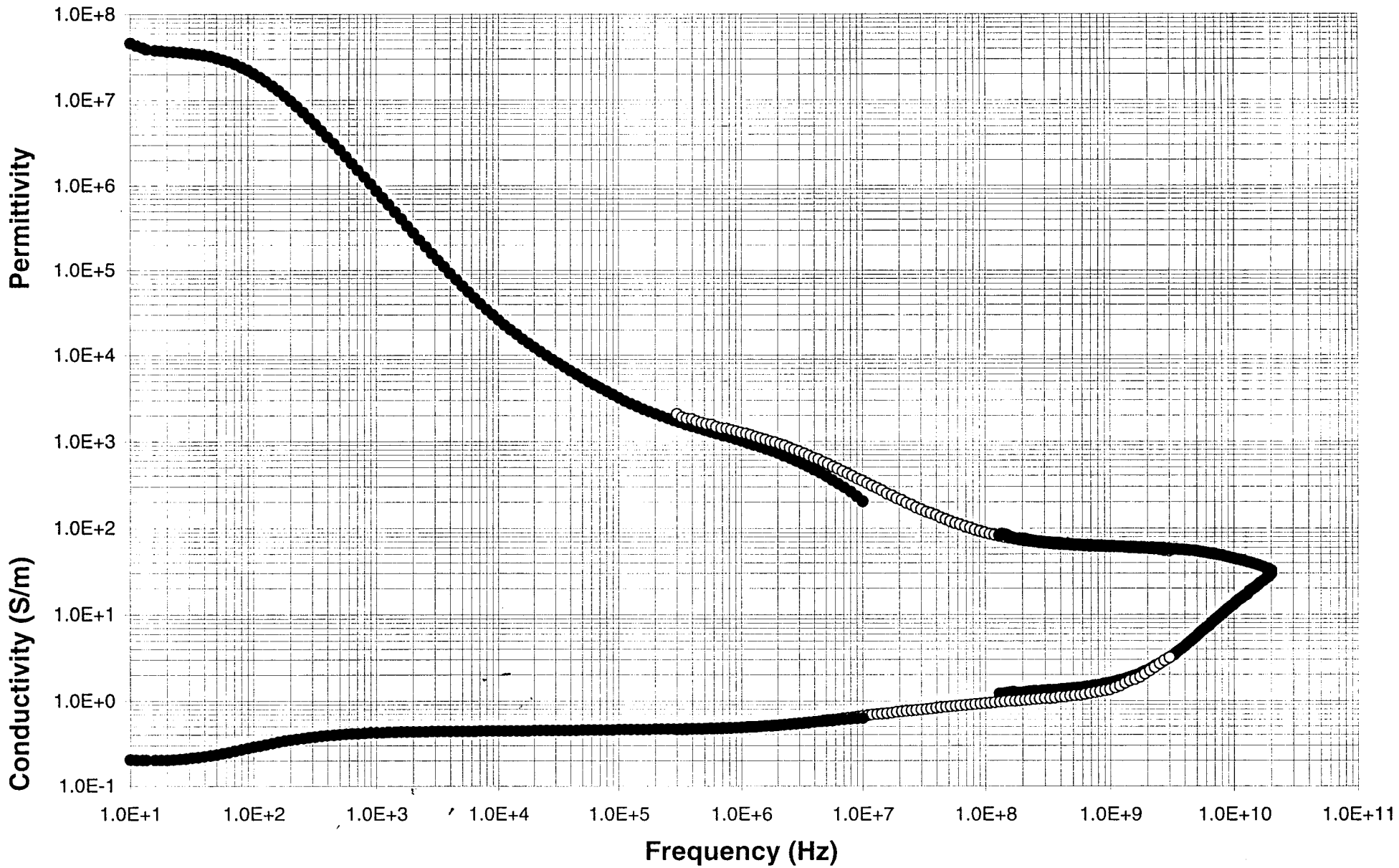
Lung Inflated



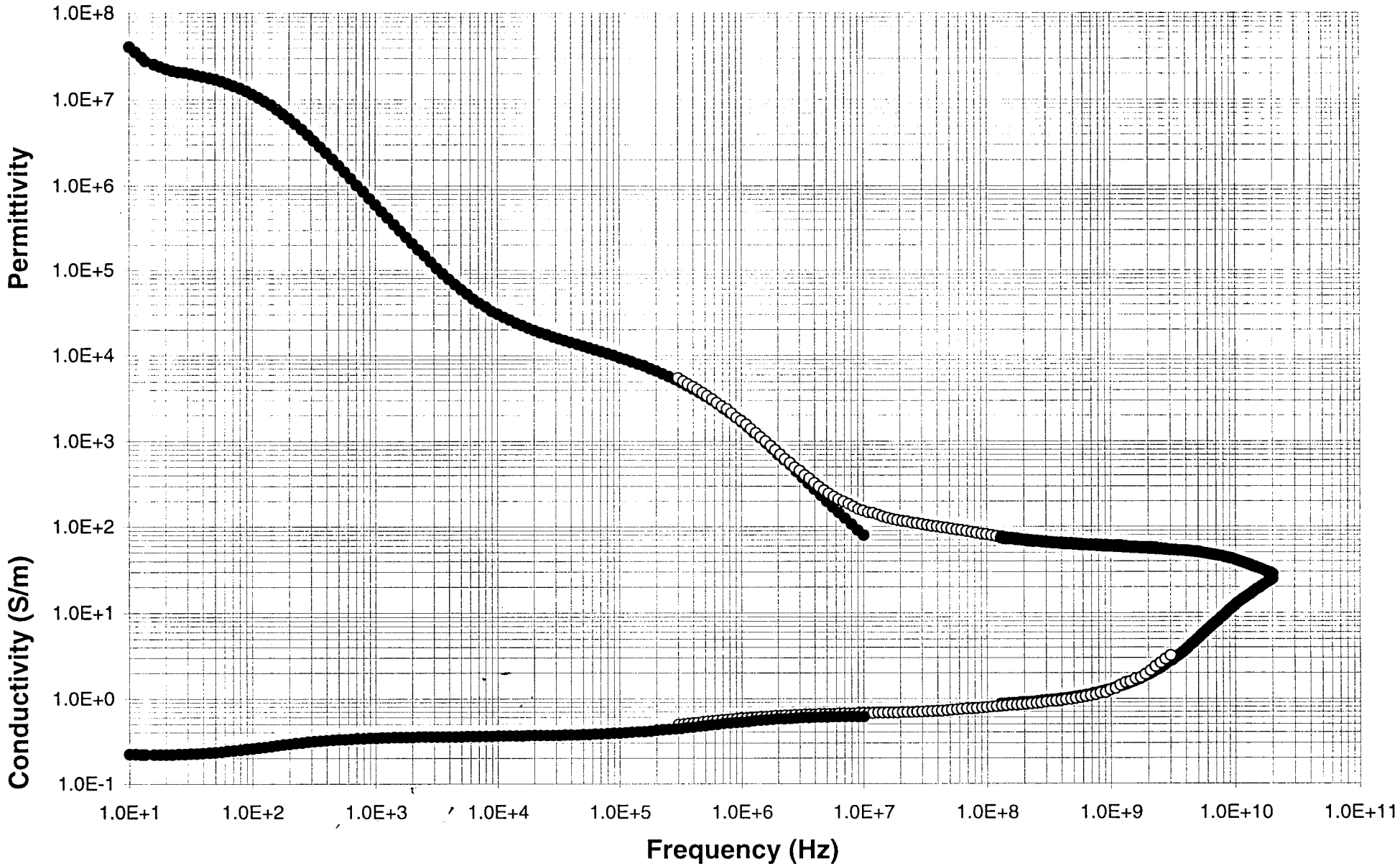
Spleen


Permittivity
Conductivity (S/m)
1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

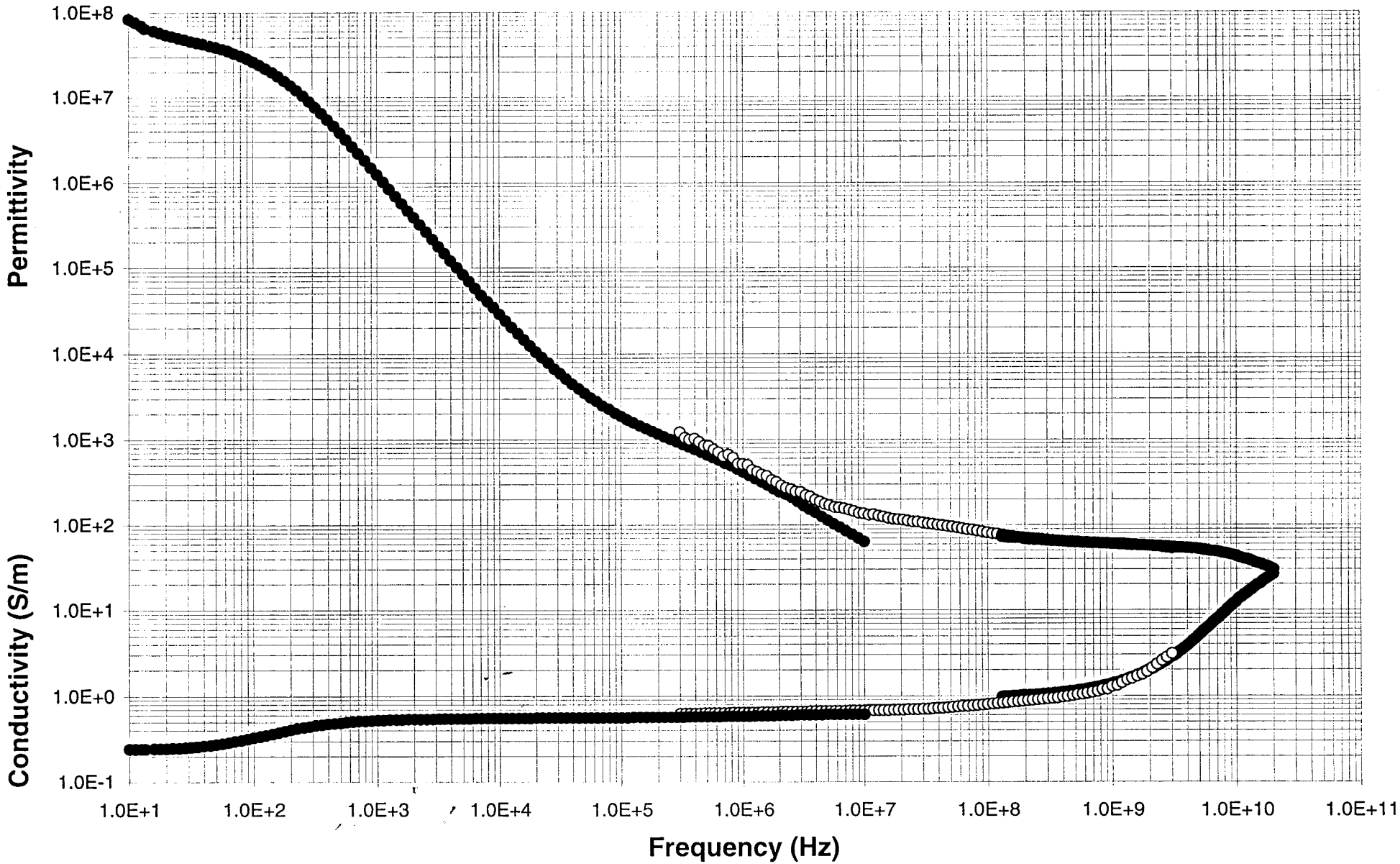
Uterus


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
Permittivity
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

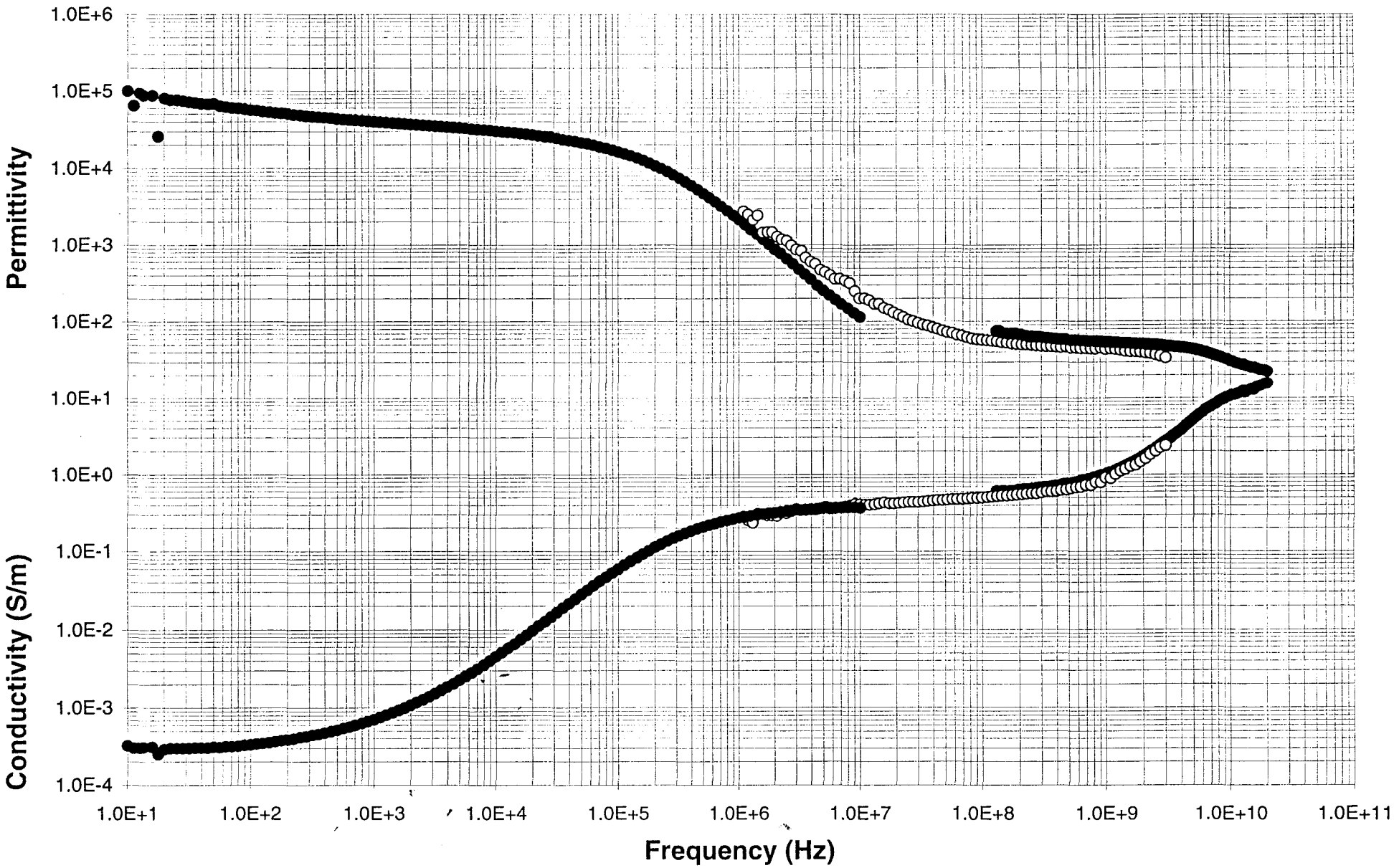
Muscle (Transverse Fiber)



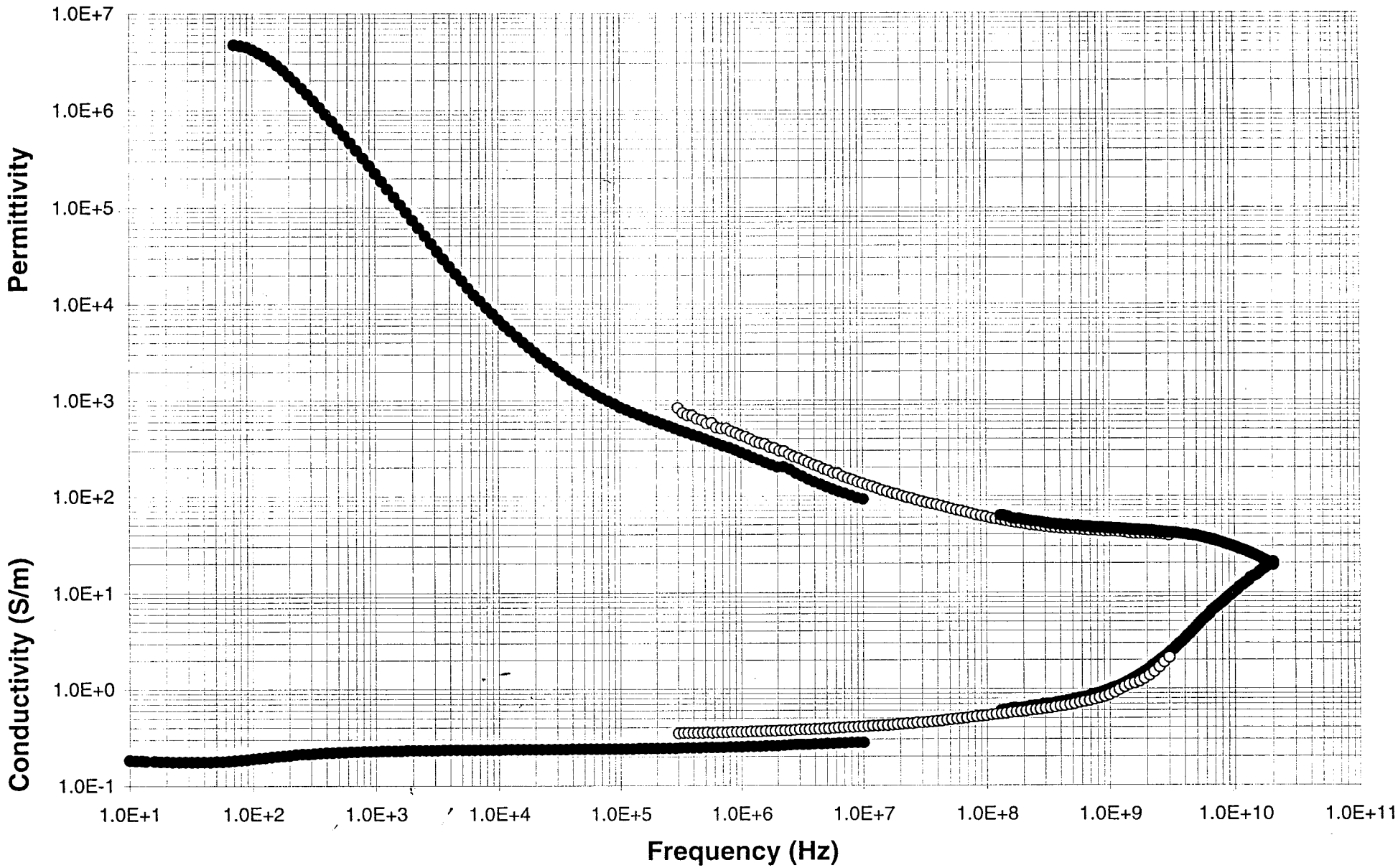
Muscle (Parallel Fiber)



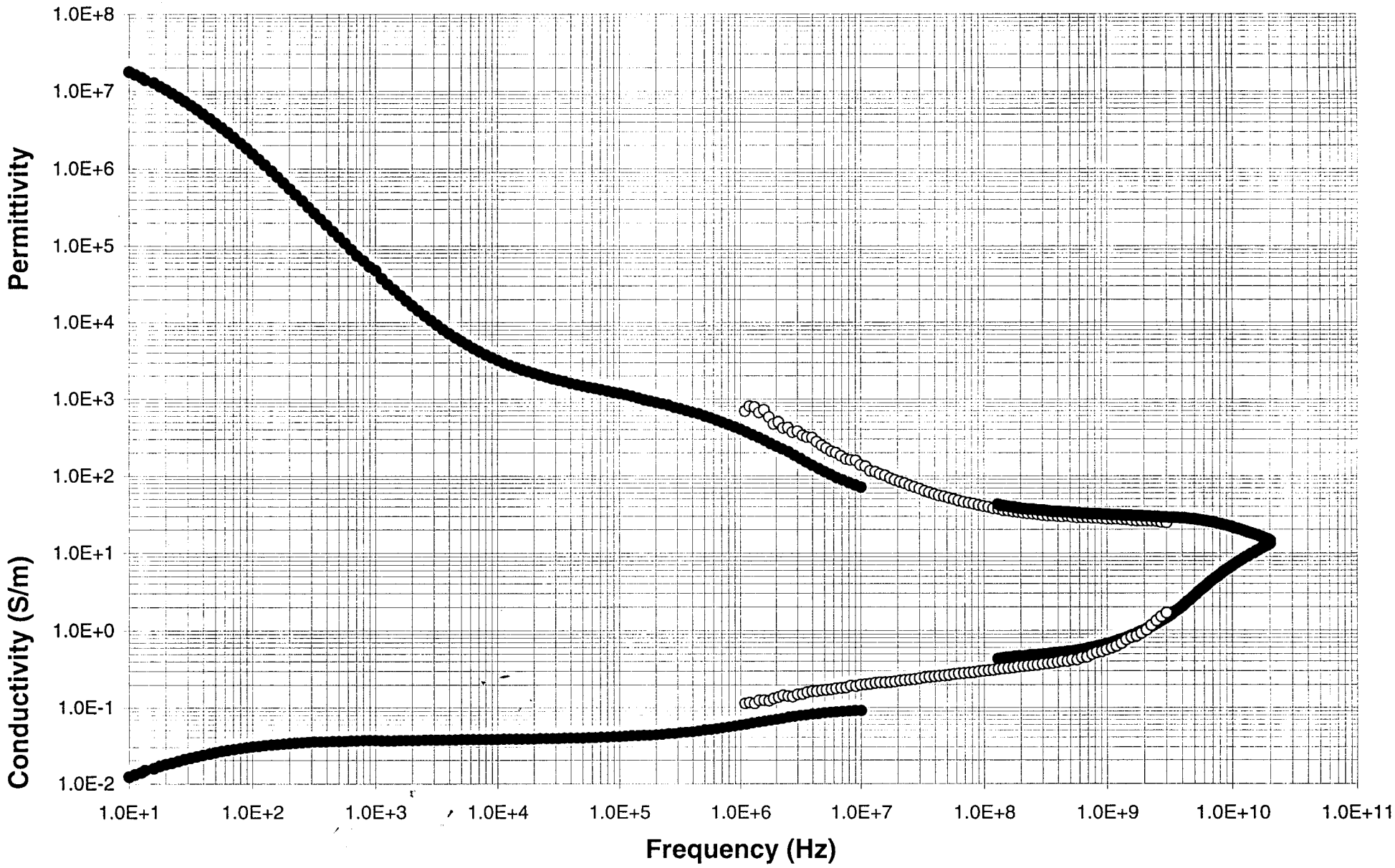
Skin (Wet)


Permittivity
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Conductivity (S/m)
1.0E-1
1.0E-2
1.0E-3
1.0E-4
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

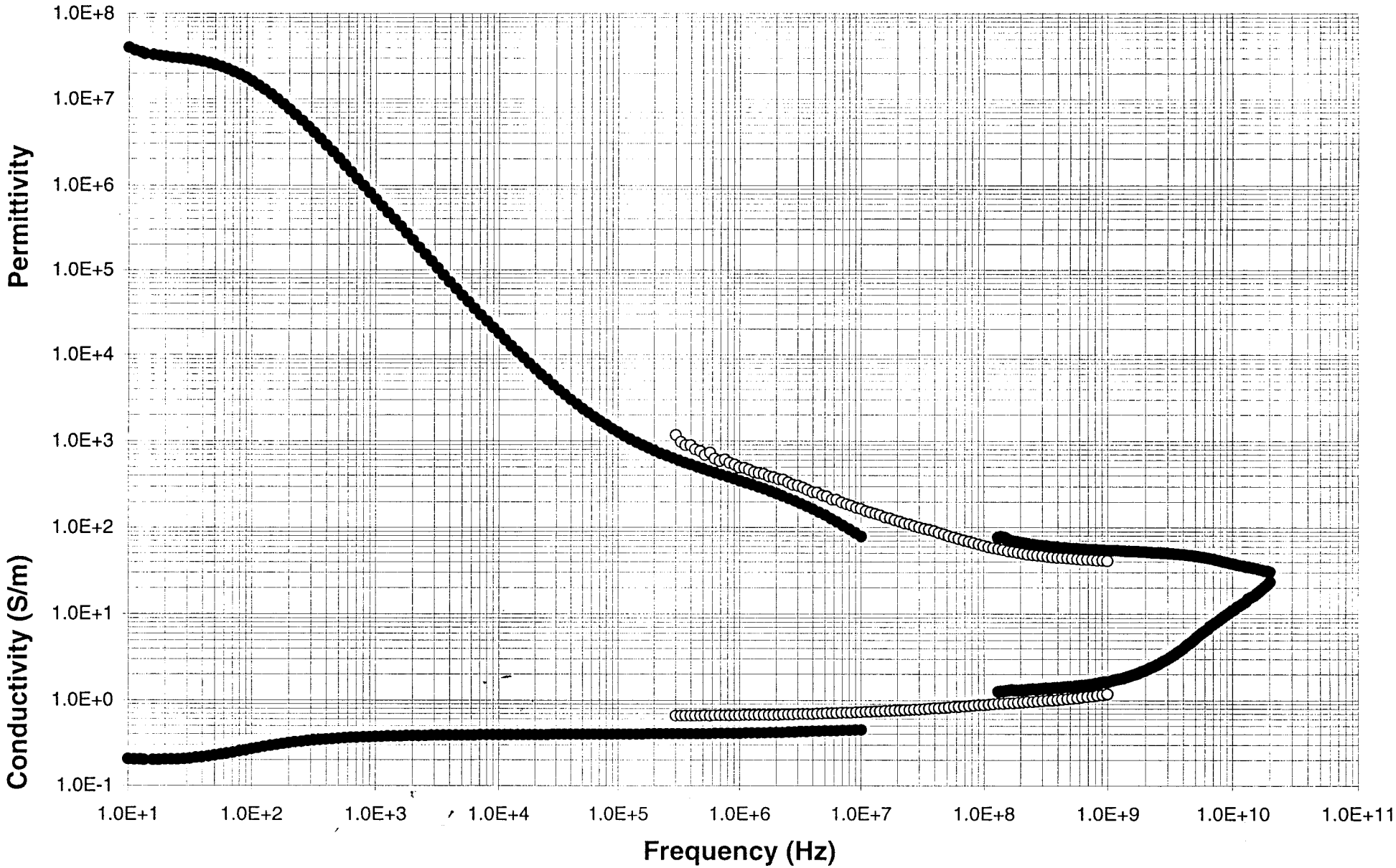
Aorta


1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
Permittivity
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

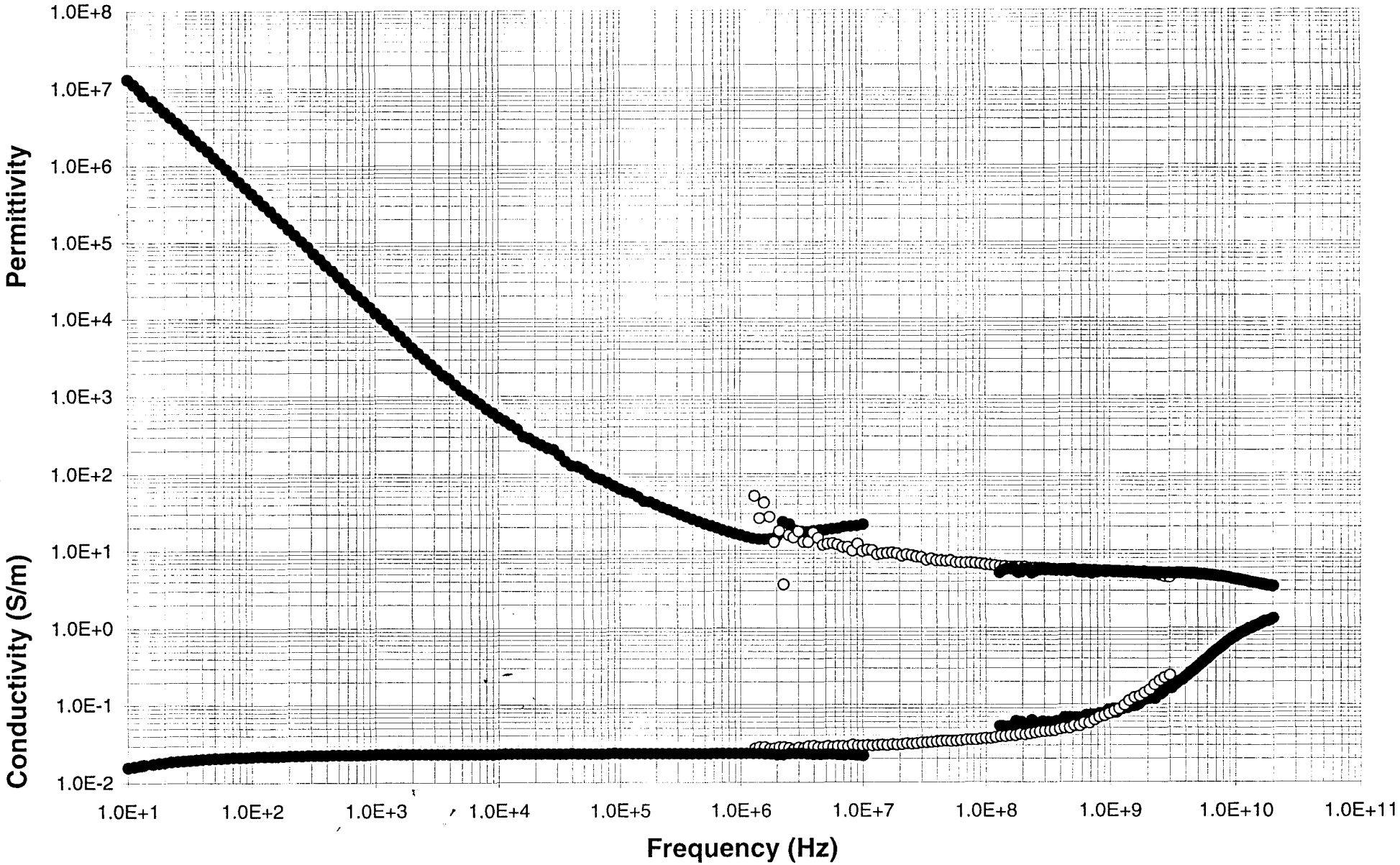
Bone Cancellous



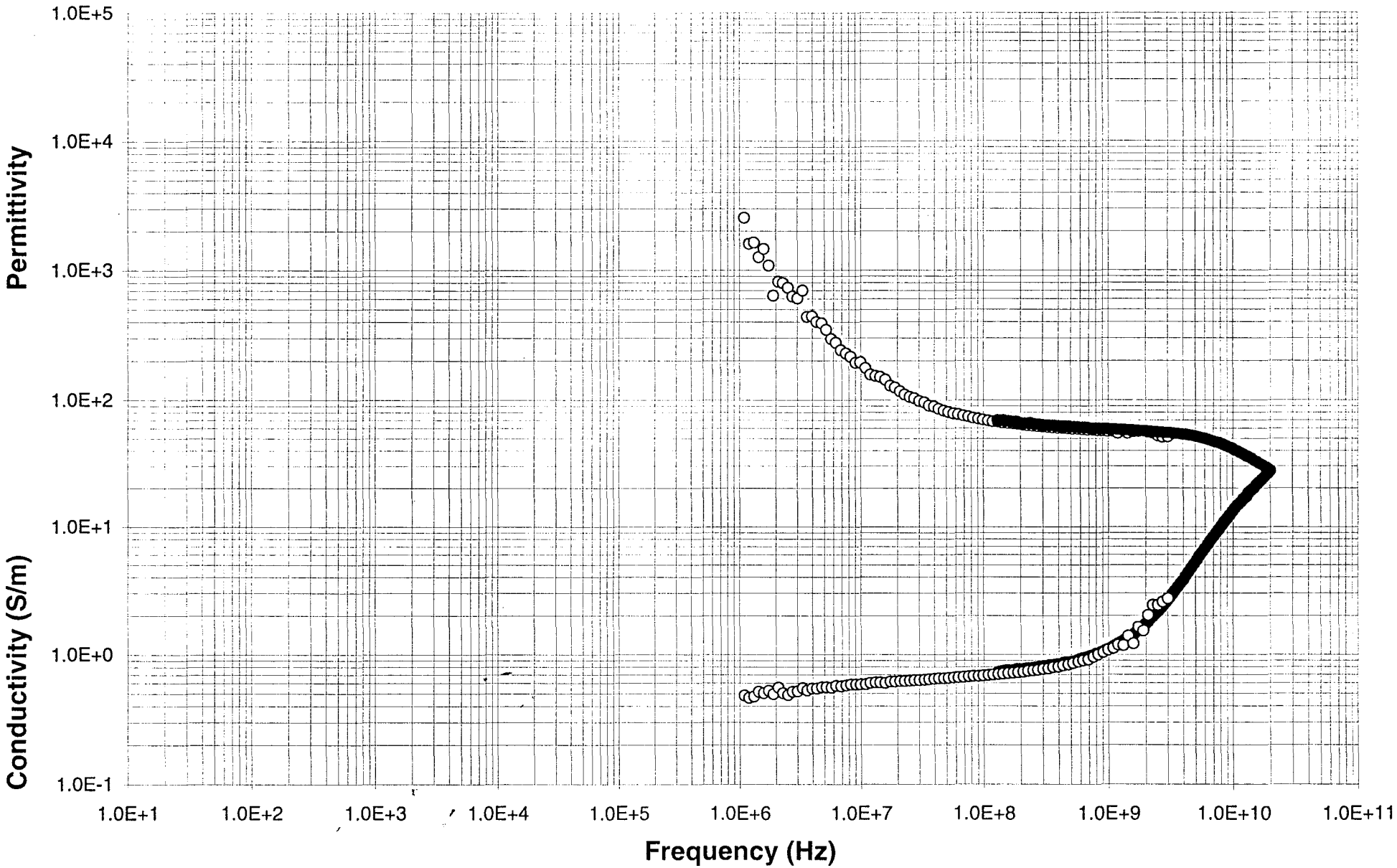
Cervix


Permittivity
Conductivity (S/m)
1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

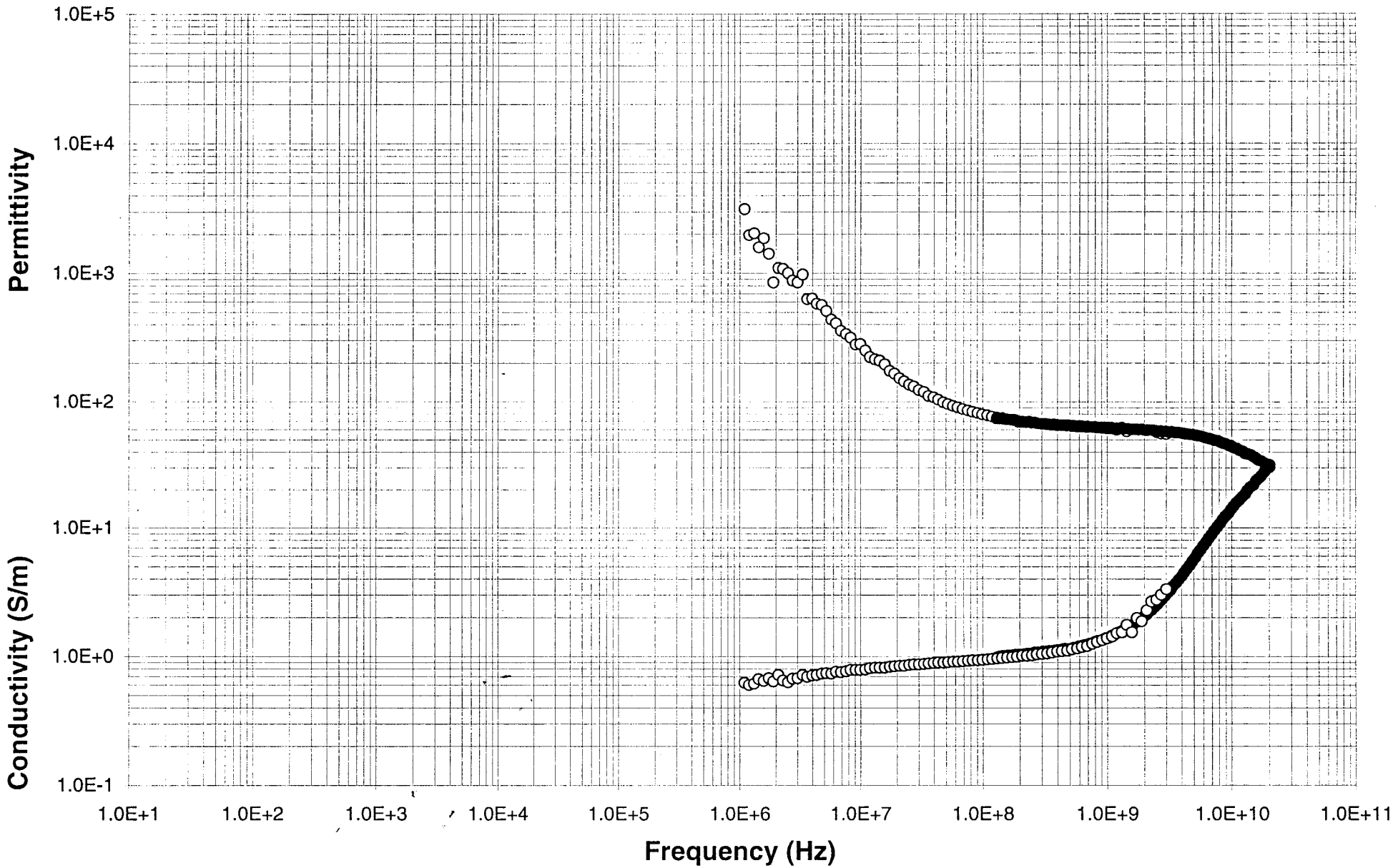
Breast Fat


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Permittivity
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

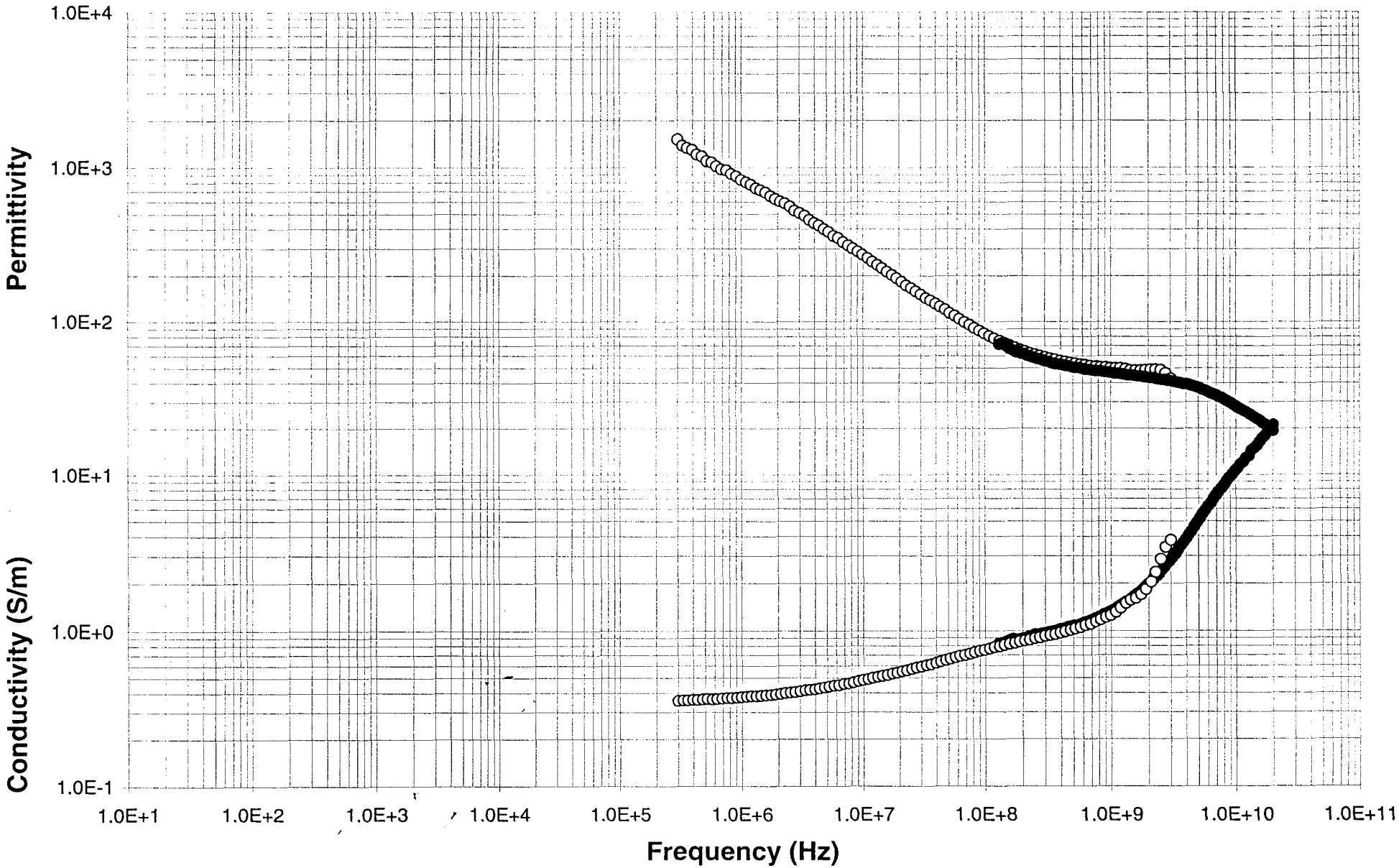
Thyroid


Permittivity
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

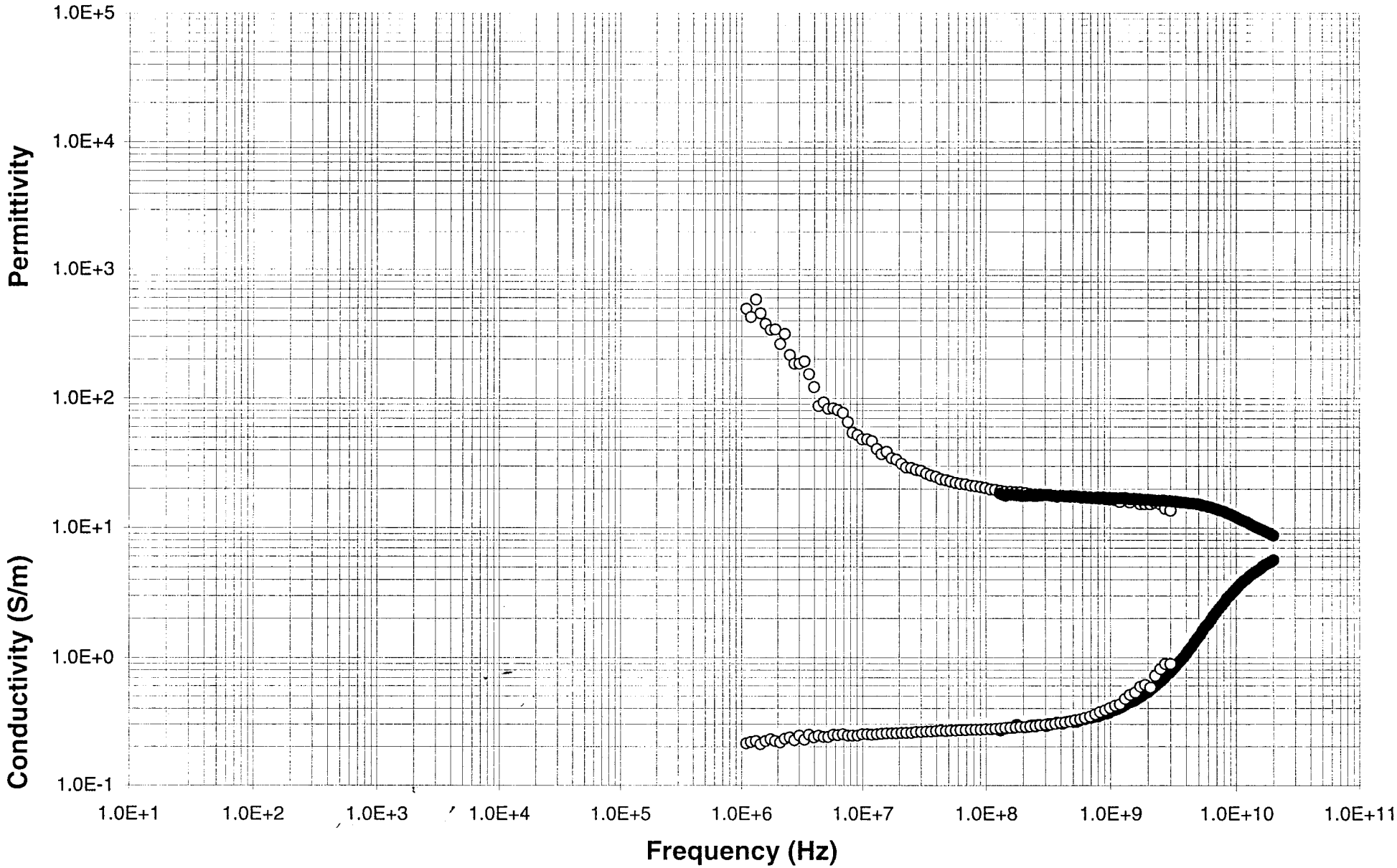
Testis


1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
Permittivity
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Ovary


Permittivity
Conductivity (S/m)
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Bladder


1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
Permittivity
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

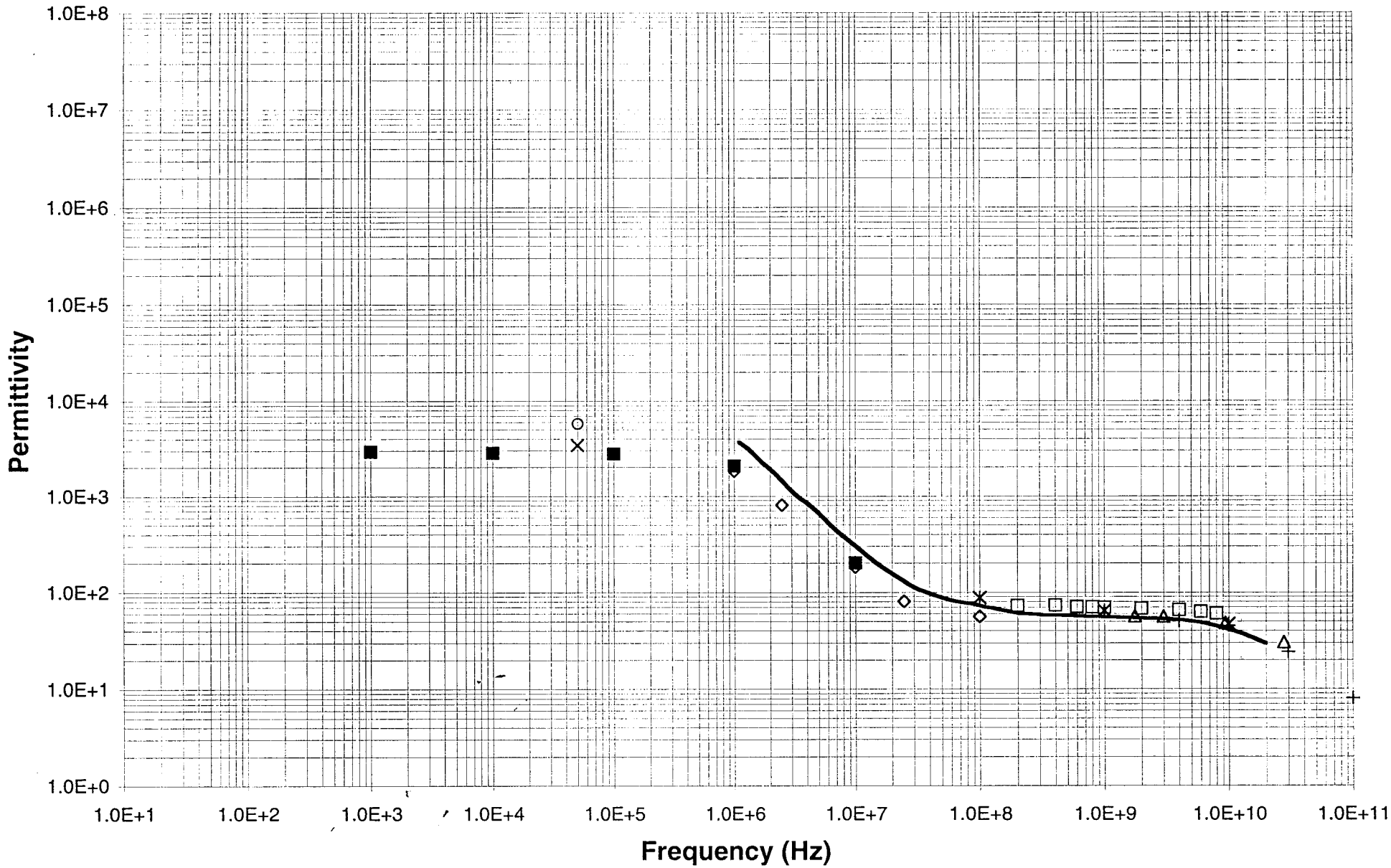
APPENDIX B: Literature Survey

Dielectric data were compiled from the literature for the following tissues.

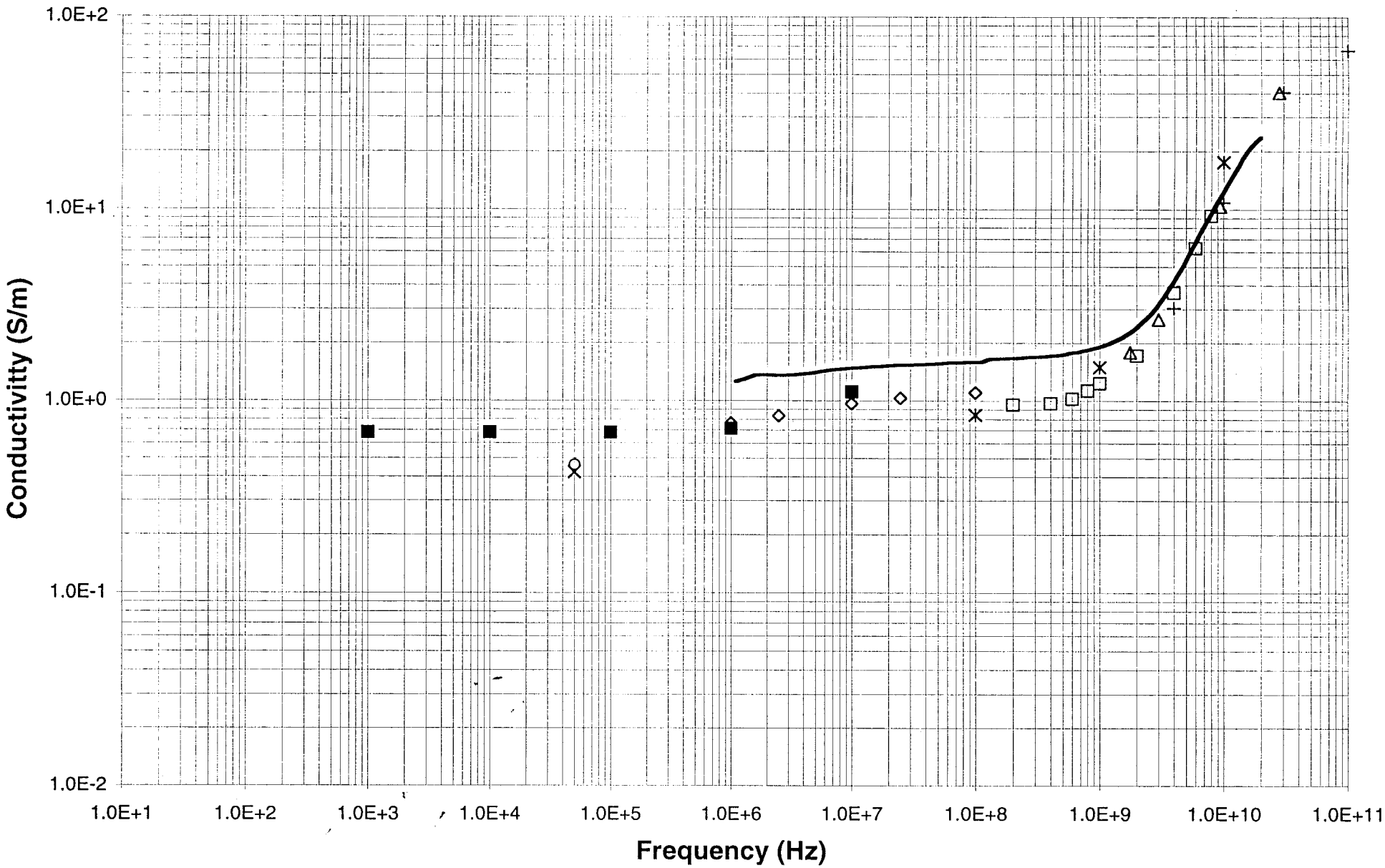
Blood
Bone -Cancellous
Bone -Cortical
Bone -Marrow
Breast Fat
Colon
Cornea
Eye Tissues
Fat
Grey Matter
Heart
Kidney
Lens Cortex
Lens Nucleus
Liver
Lung -Deflated
Lung -Inflated
Muscle
Pancreas
Skin -Dry
Skin -Wet
Spleen
Stomach
Vitreous Humour
White Matter

Frequency (Hz)	Properties			Blood
	ε'	ε''	σ (S/m)	
2.000E+8	7.216E+1	8.538E+1	9.500E-1	
4.000E+8	7.291E+1	4.359E+1	9.700E-1	
6.000E+8	7.123E+1	3.056E+1	1.020E+0	
8.000E+8	7.037E+1	2.539E+1	1.130E+0	Frog (In vivo)
1.000E+9	6.965E+1	2.211E+1	1.230E+0	Schwartz & Mealing, 1985
2.000E+9	6.754E+1	1.546E+1	1.720E+0	
4.000E+9	6.552E+1	1.636E+1	3.640E+0	
6.000E+9	6.259E+1	1.881E+1	6.280E+0	
8.000E+9	6.024E+1	2.078E+1	9.250E+0	
1.000E+6	1.800E+3	1.366E+4	7.600E-1	
2.500E+6	8.000E+2	5.968E+3	8.300E-1	Porcine (In vivo) @ 34-36°C
1.000E+7	1.800E+2	1.726E+3	9.600E-1	Hahn et al, 1980
2.500E+7	8.000E+1	7.406E+2	1.030E+0	
1.000E+8	5.600E+1	1.977E+2	1.100E+0	
1.770E+9	5.620E+1	1.808E+1	1.780E+0	
2.990E+9	5.600E+1	1.587E+1	2.640E+0	Human @ 35°C
9.390E+9	4.780E+1	1.970E+1	1.029E+1	Cook, 1952
2.770E+10	3.020E+1	2.600E+1	4.006E+1	
5.000E+4	5.800E+3	1.654E+5	4.600E-1	Human @ 21°C
5.000E+4	3.400E+3	1.510E+5	4.200E-1	Porcine @ 21°C
				Pfutzner, 1984
1.000E+8	8.700E+1	1.510E+2	8.400E-1	Rat (In vivo) @ 23°C
1.000E+9	6.400E+1	2.678E+1	1.490E+0	Burdette et al, 1980
1.000E+10	4.700E+1	3.146E+1	1.750E+1	
4.000E+9	5.000E+1	1.362E+1	3.030E+0	
1.000E+10	4.500E+1	1.943E+1	1.081E+1	Human @ 37°C
3.000E+10	2.400E+1	2.424E+1	4.045E+1	Alison & Sheppard, 1993
1.000E+11	8.000E+0	1.194E+1	6.643E+1	
1.000E+3	2.900E+3	1.222E+7	6.800E-1	
1.000E+4	2.810E+3	1.222E+6	6.800E-1	Rabbit @ Rm. Temp.
1.000E+5	2.740E+3	1.222E+5	6.800E-1	Schwan, 1956, 1963
1.000E+6	2.040E+3	1.283E+4	7.140E-1	
1.000E+7	2.000E+2	1.997E+3	1.111E+0	

Blood


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Blood


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Blood

□ Frog (In vivo) (2E8-8E9Hz) Schwartz & Mealing, 1985

◇ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

△ Human @ 35°C (2E9-3E10) Cook, 1952

○ Human @ 21°C (5E4Hz) Pfutzner, 1984

× Porcine @ 21°C (5E4Hz) Pfutzner, 1984

✳ Rat (In vivo) @ 23°C (1E8-1E10Hz) Burdette et al, 1980

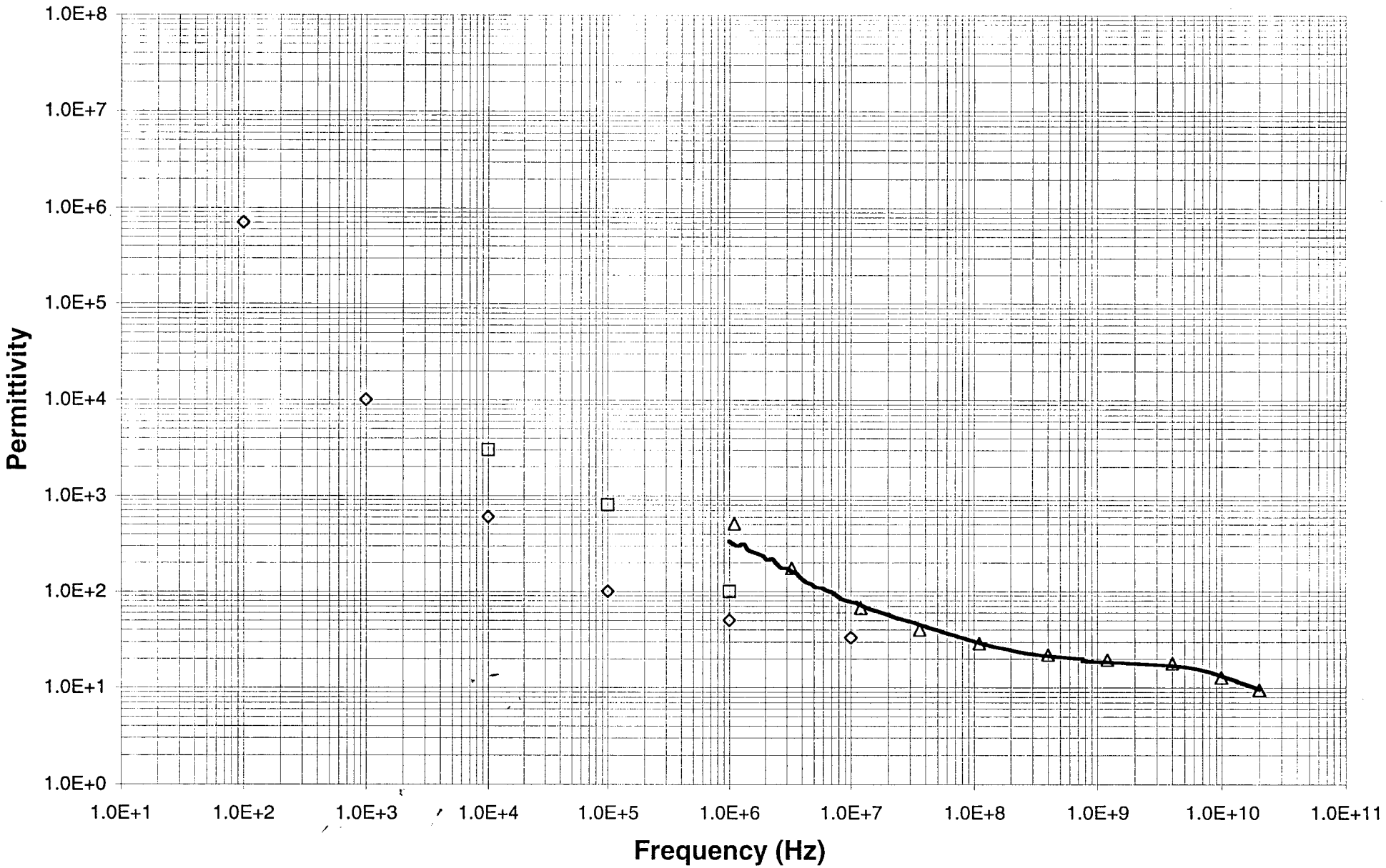
\+ Human @ 37°C (4E9-1E11Hz) Alison & Sheppard, 1993

■ Rabbit @ Rm. Temp. (1E3-1E7Hz) Schwan, 1956, 1963

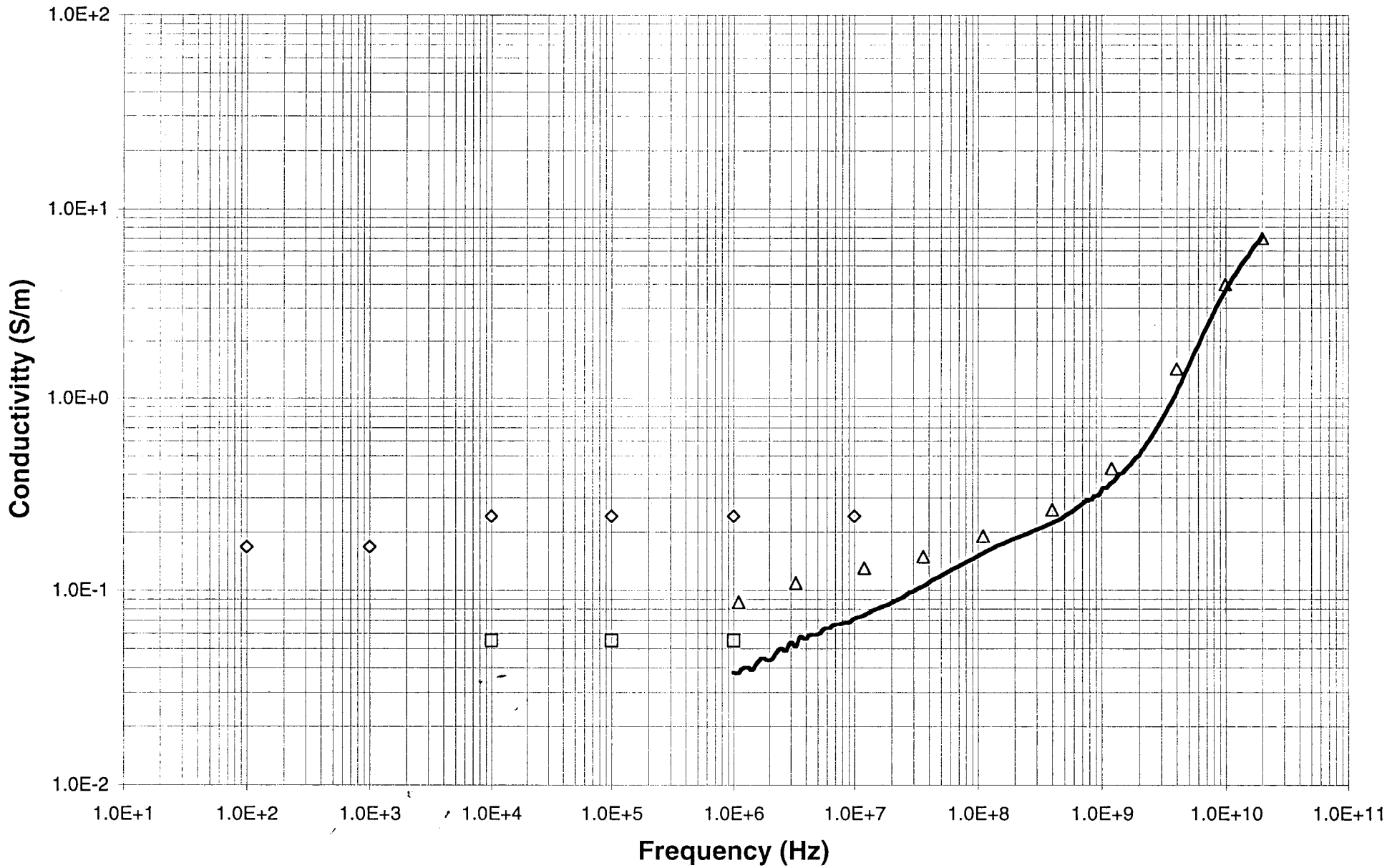
—— Ovine @ 37°C (1E6-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Bone Cancellous
	ε'	ε''	σ (S/m)	
1.000E+4	3.000E+3	9.886E+4	5.500E-2	Bovine (femur) @ RT
1.000E+5	8.000E+2	9.886E+3	5.500E-2	De Mercato, 1988
1.000E+6	1.000E+2	9.886E+2	5.500E-2	
1.000E+2	7.000E+5	3.000E+7	1.669E-1	
1.000E+3	1.000E+4	3.000E+6	1.669E-1	Human (distal tibiae) @ 27°C
1.000E+4	6.000E+2	4.314E+6	2.400E-1	Saha & Williams, 1989
1.000E+5	1.000E+2	4.314E+5	2.400E-1	
1.000E+6	5.000E+1	4.314E+4	2.400E-1	
1.000E+7	3.300E+1	4.314E+3	2.400E-1	
1.100E+6	5.065E+2	1.425E+3	8.640E-2	
3.300E+6	1.739E+2	5.915E+2	1.082E-1	
1.200E+7	6.663E+1	1.945E+2	1.292E-1	
3.600E+7	3.958E+1	7.359E+1	1.477E-1	
1.100E+8	2.864E+1	3.114E+1	1.887E-1	Ovine (skull) @ 37°C
4.000E+8	2.190E+1	1.182E+1	2.601E-1	Gabriel et al, 94
1.200E+9	1.932E+1	6.410E+0	4.256E-1	
4.000E+9	1.776E+1	6.400E+0	1.420E+0	
9.900E+9	1.264E+1	7.210E+0	3.964E+0	
2.000E+10	9.360E+0	6.250E+0	6.957E+0	

Bone Cancellous



Bone Cancellous



Bone Cancellous

□ Bovine (femur) @ RT (1E4-1E6Hz) De Mercato & GarciaSanchez, 1988

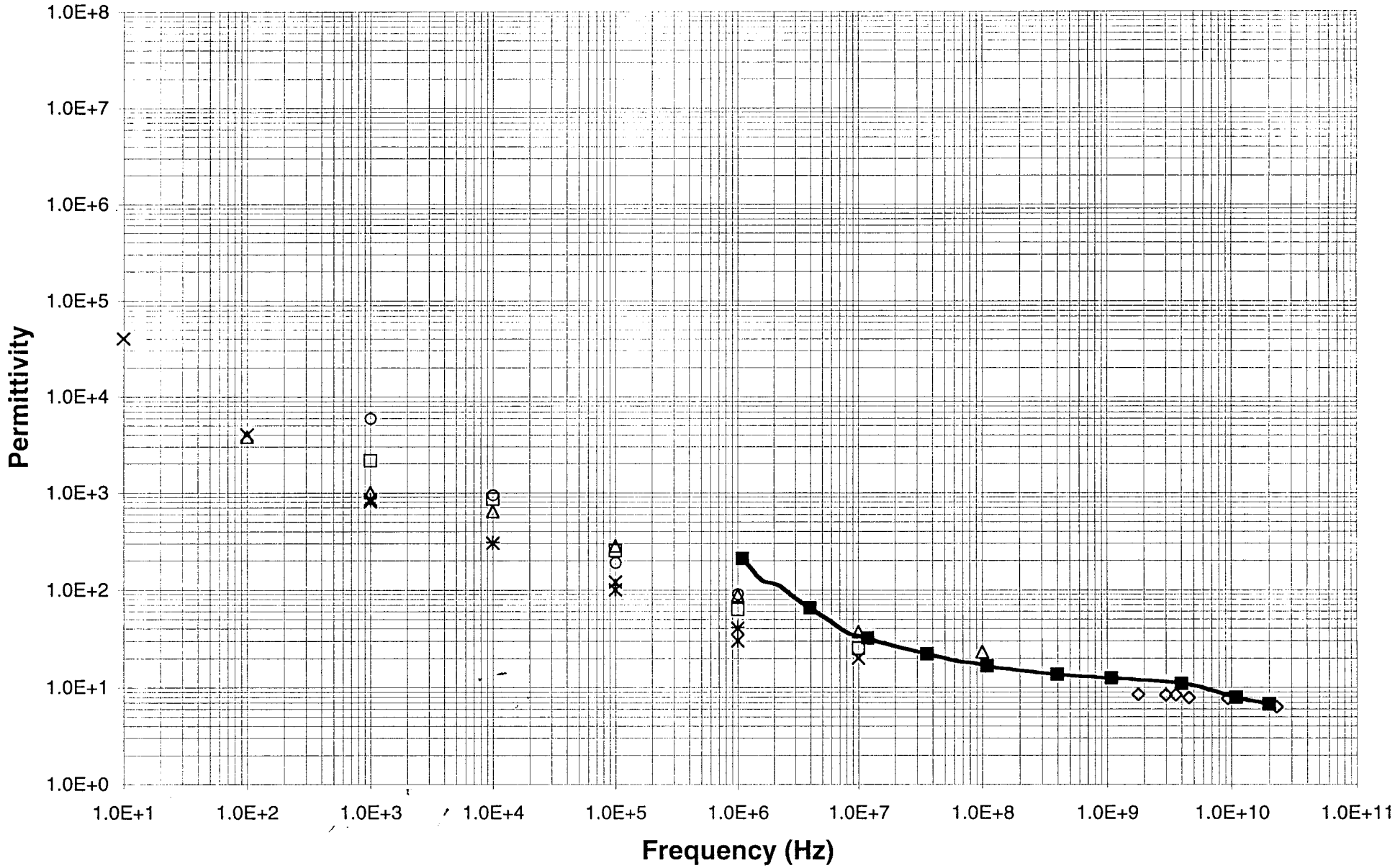
◇ Human (distal tibiae) @ 27°C (1E2-1E7Hz) Saha & Williams, 1989

△ Ovine (skull) @ 37°C (1E6-2E10Hz) Gabriel et al., 94

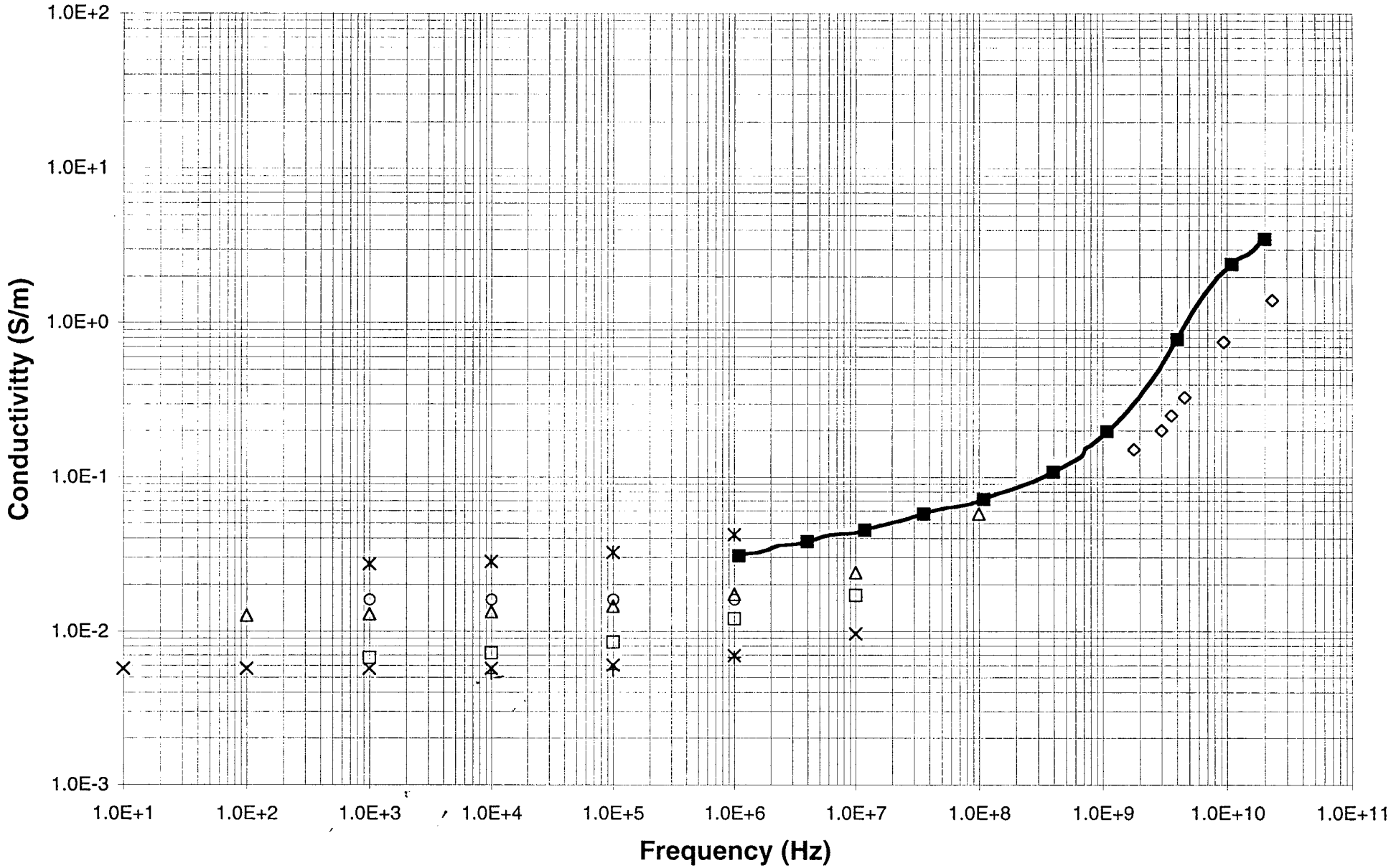
—— Human @ 23°C (1E6-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Bone Cortical
	ε'	ε''	σ (S/m)	
1.000E+3	2.154E+3	1.204E+5	6.700E-3	
1.000E+4	8.580E+2	1.294E+4	7.200E-3	Rat (femur) @ 37°C
1.000E+5	2.510E+2	1.528E+3	8.500E-3	Smith & Foster, 1985
1.000E+6	6.300E+1	2.157E+2	1.200E-2	
1.000E+7	2.500E+1	3.056E+1	1.700E-2	
1.800E+9	8.400E+0	1.498E+0	1.500E-1	
3.000E+9	8.350E+0	1.198E+0	2.000E-1	Human (tibia) @ 37°C
4.600E+9	7.830E+0	1.290E+0	3.300E-1	Cook, 1951 & England, 1950
9.400E+9	7.600E+0	1.434E+0	7.500E-1	
2.300E+10	6.300E+0	1.094E+0	1.400E+0	
1.000E+2	3.800E+3	2.265E+6	1.260E-2	
1.000E+3	1.000E+3	2.319E+5	1.290E-2	
1.000E+4	6.400E+2	2.391E+4	1.330E-2	Rat (femur) @ 37°C
1.000E+5	2.800E+2	2.588E+3	1.440E-2	Kosterich, 1983
1.000E+6	8.700E+1	3.110E+2	1.730E-2	
1.000E+7	3.700E+1	4.260E+1	2.370E-2	
1.000E+8	2.300E+1	1.032E+1	5.740E-2	
1.000E+3	5.900E+3	2.876E+5	1.600E-2	
1.000E+4	9.400E+2	2.876E+4	1.600E-2	Bovine (femur) @ RT
1.000E+5	1.900E+2	2.876E+3	1.600E-2	De Mercato, 1988
1.000E+6	9.000E+1	2.876E+2	1.600E-2	
1.000E+1	4.000E+4	1.025E+7	5.700E-3	
1.000E+2	4.000E+3	1.025E+6	5.700E-3	
1.000E+3	8.000E+2	1.025E+5	5.700E-3	Bovine (tibia) @ 23°C
1.000E+4	3.000E+2	1.025E+4	5.700E-3	De Mercato, 1991
1.000E+5	1.200E+2	1.079E+3	6.000E-3	
1.000E+6	4.000E+1	1.240E+2	6.900E-3	
1.000E+7	2.000E+1	1.726E+1	9.600E-3	
1.000E+3	8.500E+2	3.236E+4	2.700E-2	
1.000E+4	3.000E+2	3.236E+3	2.800E-2	Bovine (femur) @ 21°C
1.000E+5	1.000E+2	3.415E+2	3.200E-2	Reddy & Saha, 1984
1.000E+6	3.000E+1	5.932E+1	4.200E-2	
1.000E+4	3.080E+2	9.527E+3	5.300E-3	Human (distal tibiae) @27°C
1.000E+5	1.110E+2	1.007E+3	5.600E-3	Saha & Williams, 1989
1.000E+6	4.100E+1	1.204E+2	6.700E-3	
1.090E+6	2.086E+2	5.030E+2	3.050E-2	
3.950E+6	6.520E+1	1.725E+2	3.790E-2	
1.190E+7	3.206E+1	6.767E+1	4.480E-2	
3.610E+7	2.207E+1	2.863E+1	5.750E-2	
1.090E+8	1.663E+1	1.181E+1	7.160E-2	Ovine (Skull) @ 37°C (1E6-2E10Hz)
3.950E+8	1.362E+1	4.892E+0	1.075E-1	Gabriel et al, 94
1.080E+9	1.244E+1	3.283E+0	1.973E-1	
3.990E+9	1.096E+1	3.513E+0	7.797E-1	
1.090E+10	7.851E+0	3.960E+0	2.402E+0	
2.000E+10	6.687E+0	3.151E+0	3.505E+0	

Bone Cortical



Bone Cortical



Bone Cortical

□ Rat (femur) @ 37°C (1E3-1E7Hz) Smith & Foster, 1985

◇ Human (tibia) @ 37°C (2E9-2E10Hz) Cook, 1951 & England, 1950

△ Rat (femur) @ 37°C (1E2-1E8Hz) Kosterich et al, 1983

○ Bovine (femur) @ RT (1E3-1E6Hz) De Mercato & Garcia-Sanchez, 1988

× Bovine (tibia) @ 23°C (1E1-1E7Hz) De Mercato & Garcia-Sanchez, 1988

✳ Bovine (femur) @ 21°C (1E3-1E6Hz) Reddy & Saha, 1984

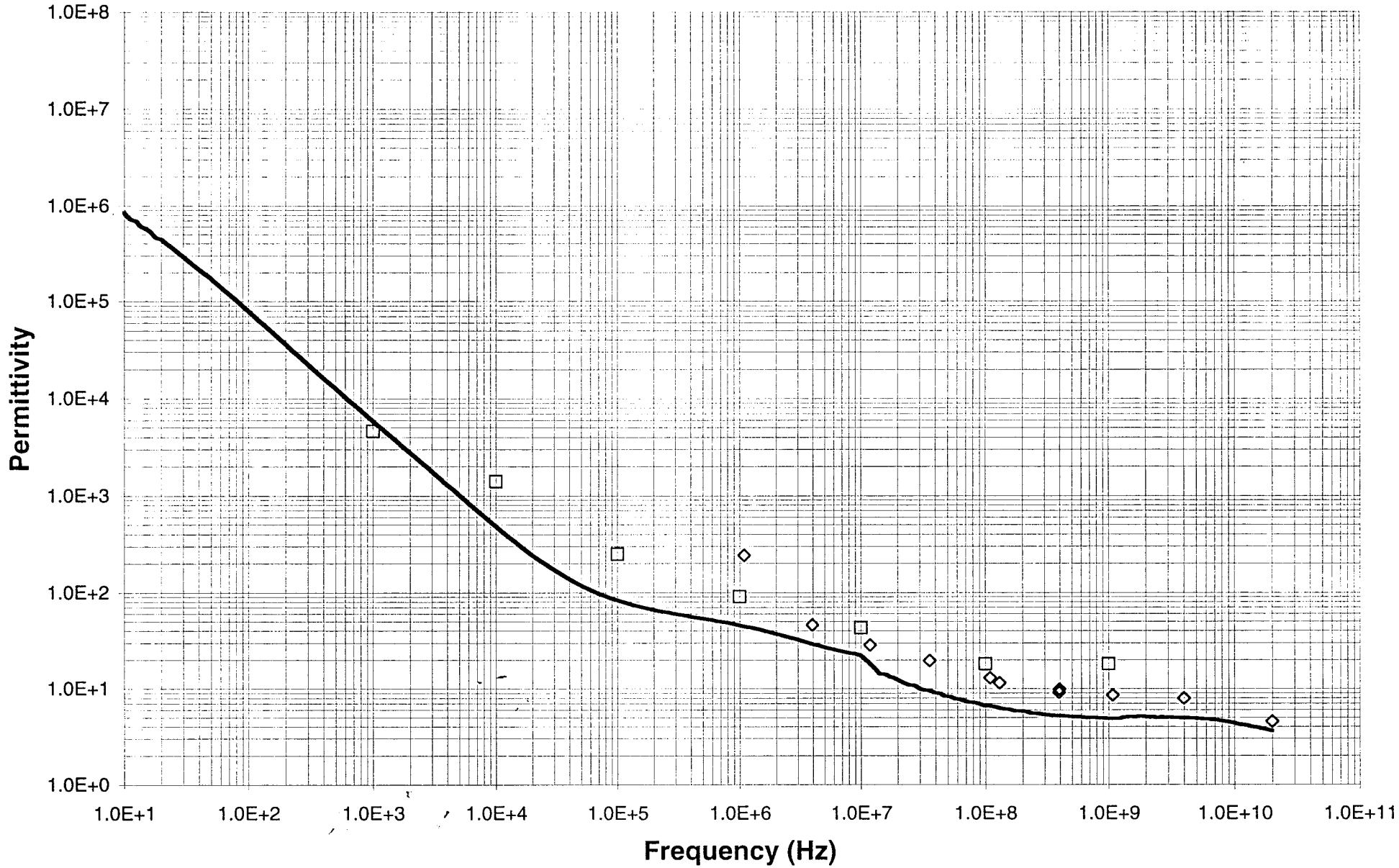
\+ Human (distal tibiae) @27°C (1E4-1E6Hz) Saha & Williams, 1989

■ Ovine (Skull) @ 37°C (1E6-2E10Hz) Gabriel et al, 94

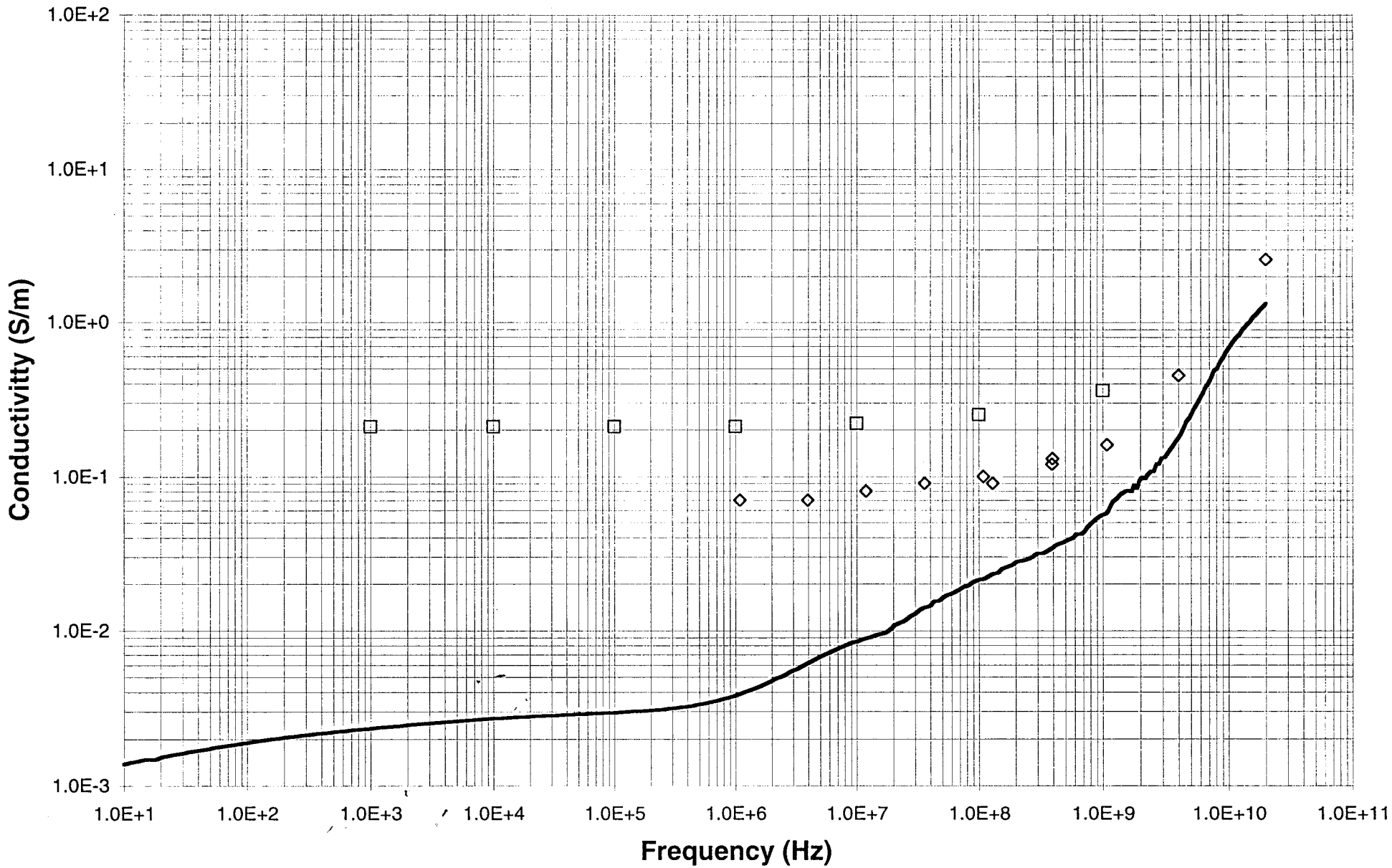
—— Ovine (Skull) @ 37°C (1E6-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Bone Marrow
	ε'	ε''	σ (S/m)	
1.000E+3	4.600E+3	3.775E+6	2.100E-1	Calf (femur and tibia) @25°C Smith & Foster, 1985
1.000E+4	1.400E+3	3.775E+5	2.100E-1	
1.000E+5	2.500E+2	3.775E+4	2.100E-1	
1.000E+6	9.000E+1	3.775E+3	2.100E-1	
1.000E+7	4.300E+1	3.955E+2	2.200E-1	
1.000E+8	1.800E+1	4.494E+1	2.500E-1	
1.000E+9	1.800E+1	6.471E+0	3.600E-1	
1.090E+6	2.421E+2	1.098E+3	7.000E-2	Ovine @37°C Current study measurements
3.950E+6	4.556E+1	3.244E+2	7.000E-2	
1.190E+7	2.842E+1	1.162E+2	8.000E-2	
3.610E+7	1.943E+1	4.358E+1	9.000E-2	
1.090E+8	1.292E+1	1.712E+1	1.000E-1	
3.950E+8	9.830E+0	5.780E+0	1.300E-1	
1.300E+8	1.147E+1	1.267E+1	9.000E-2	
3.940E+8	9.090E+0	5.320E+0	1.200E-1	
1.080E+9	8.490E+0	2.640E+0	1.600E-1	
3.990E+9	7.910E+0	2.050E+0	4.500E-1	
2.000E+10	4.530E+0	2.320E+0	2.580E+0	

Bone Marrow


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Bone Marrow


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Bone Marrow

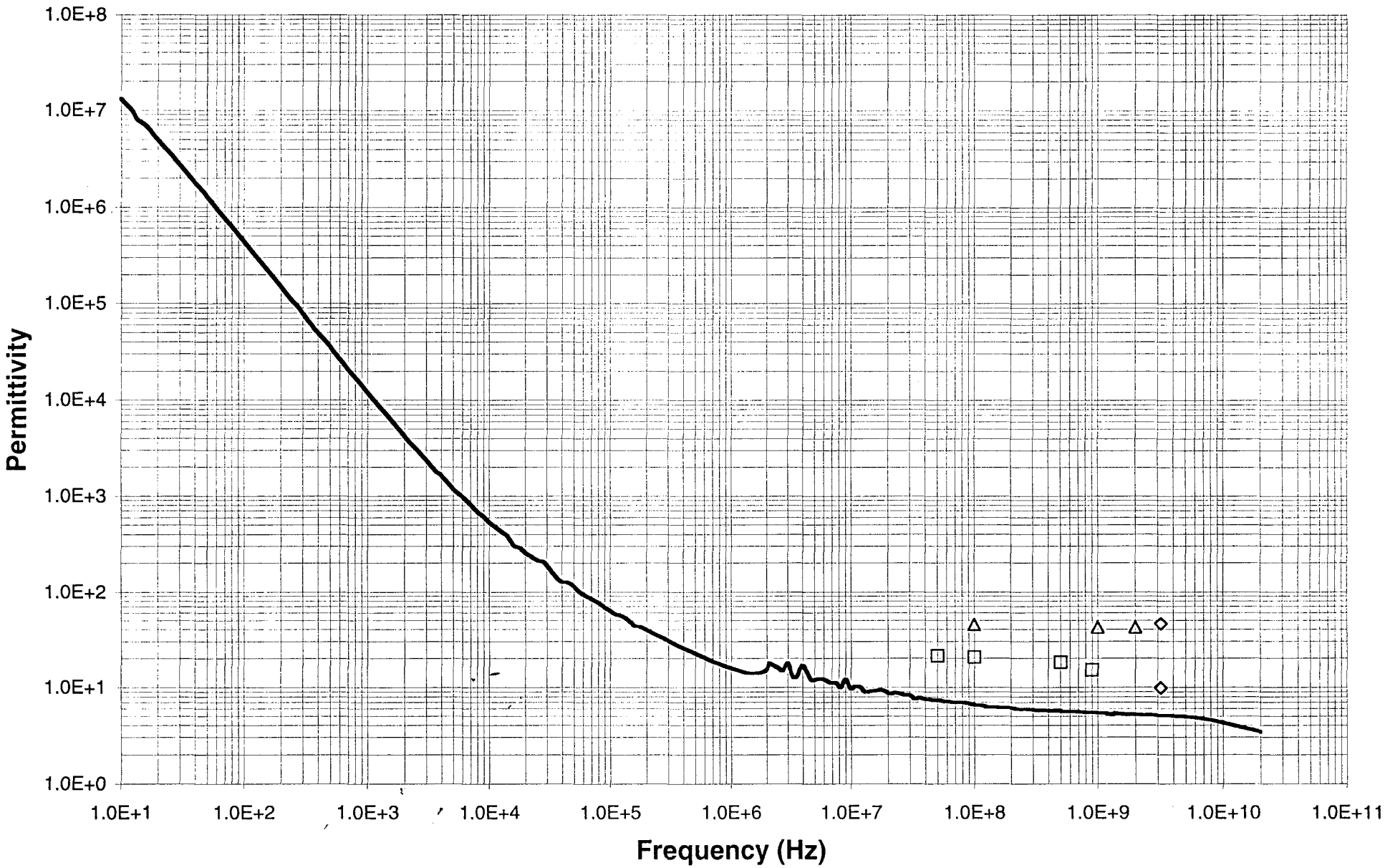
□ Calf (femur and tibia) @25°C (1E3-1E9Hz) Smith & Foster, 1985

◇ Ovine @37°C (1E6-2E10Hz) Current study measurement

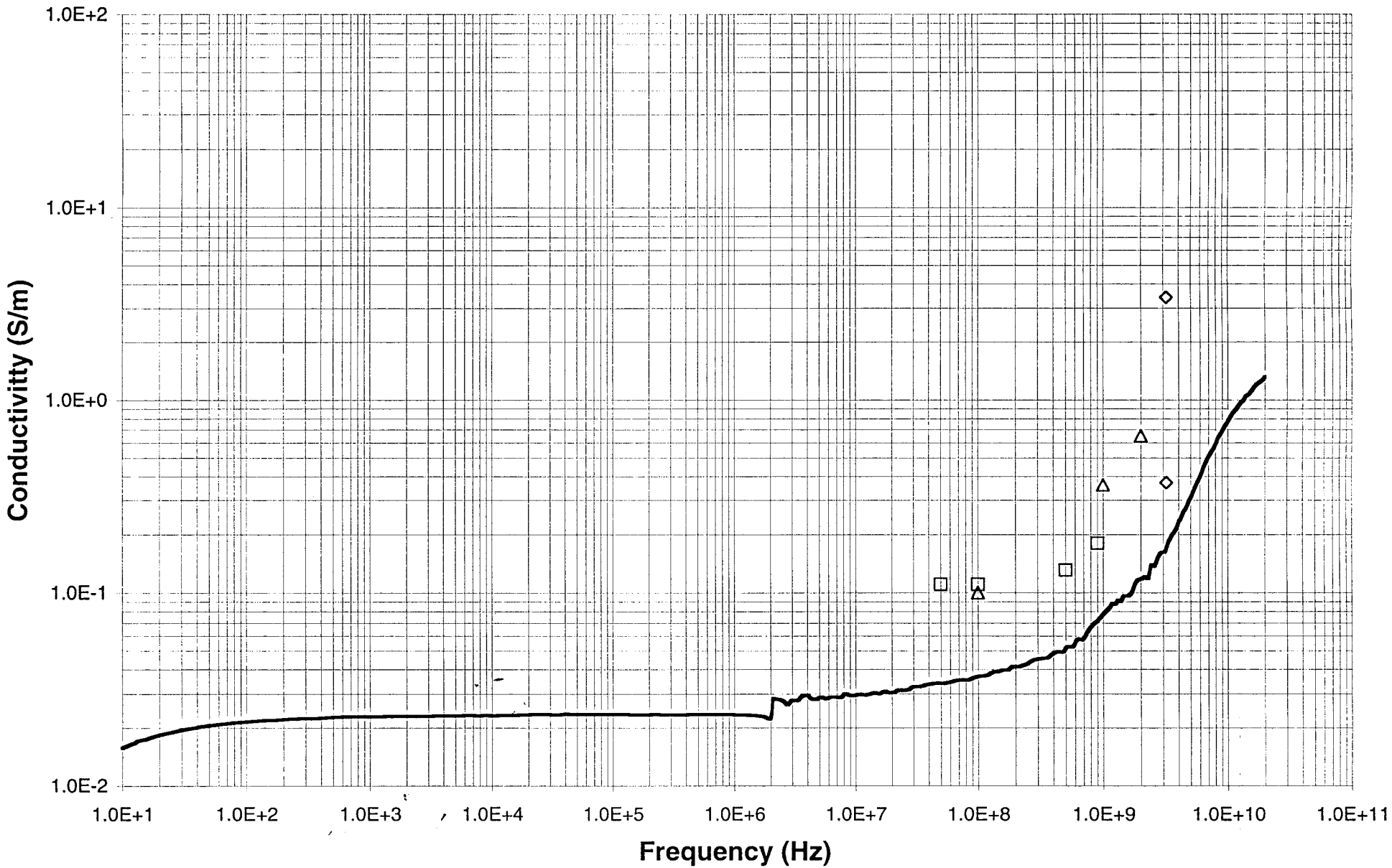
—— Bovine @ 37°C (1E1-2E10Hz) Current study measurement

Frequency (Hz)	Properties			Breast Fat
	ε'	ε''	σ (S/m)	
5.000E+7	2.100E+1	3.955E+1	1.100E-1	Human @ 23-25°C Joines et al,1994
1.000E+8	2.050E+1	1.977E+1	1.100E-1	
5.000E+8	1.800E+1	4.674E+0	1.300E-1	
9.000E+8	1.500E+1	3.595E+0	1.800E-1	
3.200E+9	9.800E+0	2.078E+0	3.700E-1	Human (glandular and connective tissue) @ 25°C Campbell & Land, 1992
3.200E+9	4.600E+1	1.910E+1	3.400E+0	
1.000E+8	4.500E+1	1.798E+1	1.000E-1	Rat @ 30°C Joines et al, 1980
1.000E+9	4.200E+1	6.471E+0	3.600E-1	
2.000E+9	4.200E+1	5.842E+0	6.500E-1	

Breast Fat


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Breast Fat


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Breast Fat

□ Human @ 23-25°C (5E7-9E8Hz) Joines et al,1994

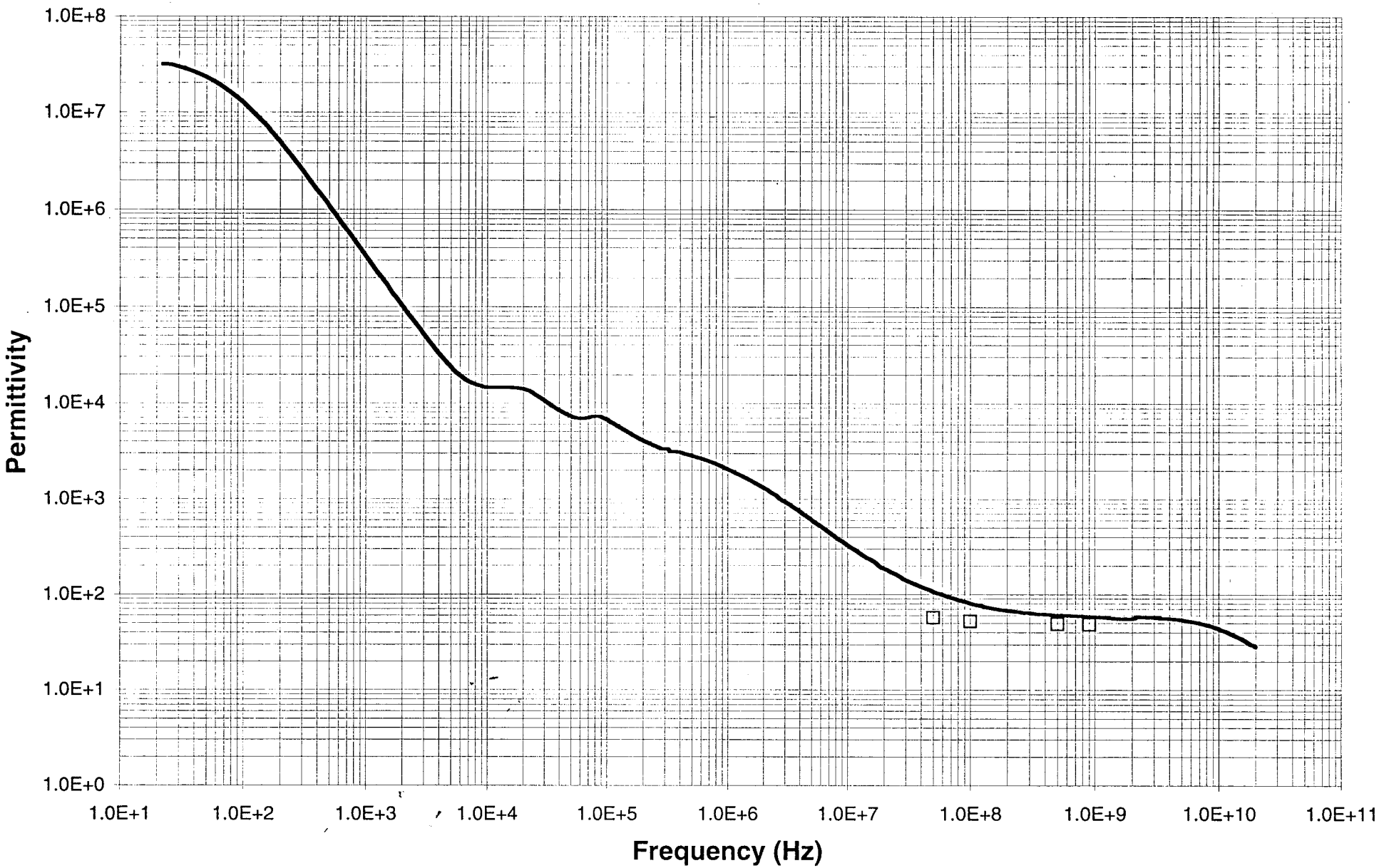
◇ Human (glandular and connective tissue) @ 25°C (3E9Hz) Campbell & Land, 1992

△ Rat @ 30°C (1E8-2E9Hz) Joines et al, 1980

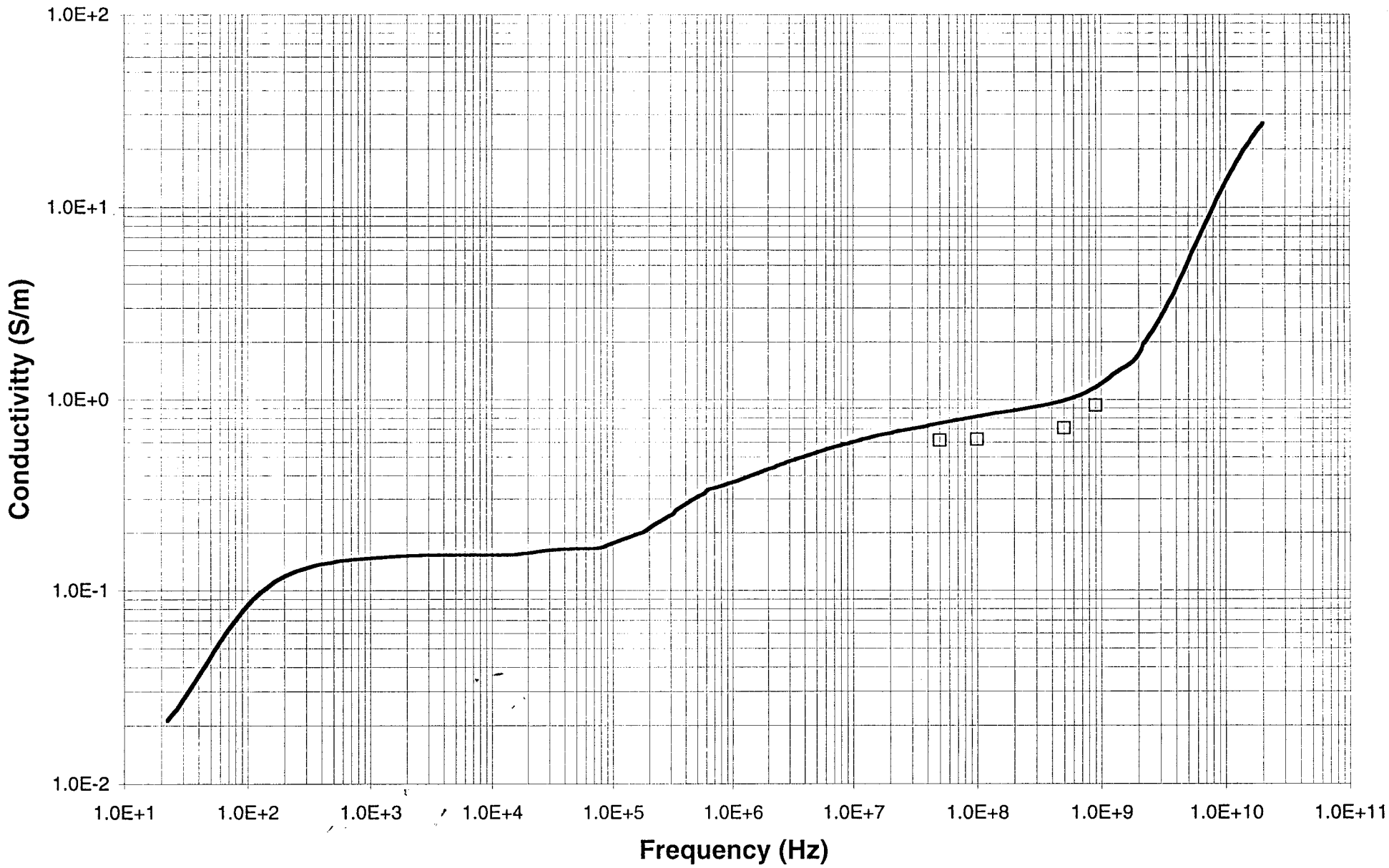
—— Human @ 37°C (1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Colon
	ε'	ε''	σ (S/m)	
5.000E+7	5.700E+1	2.193E+2	6.100E-1	
1.000E+8	5.200E+1	1.114E+2	6.200E-1	Human @ 23-25°C
5.000E+8	4.900E+1	2.552E+1	7.100E-1	Joines et al, 1994
9.000E+8	4.850E+1	1.857E+1	9.300E-1	

Colon


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Colon


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

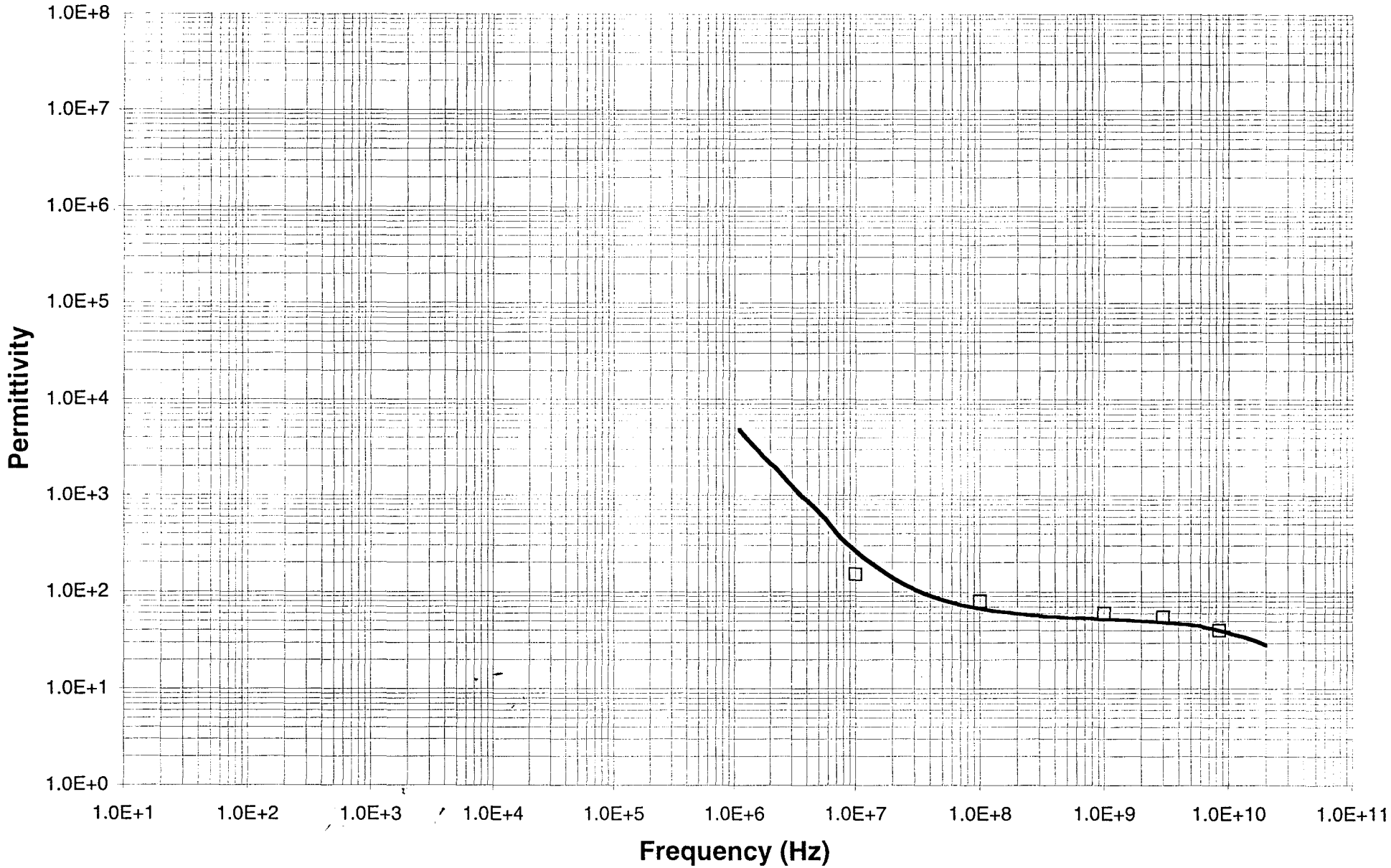
Colon

□ Human @ 23-25°C (5E7-9E8Hz) Joines et al, 1994

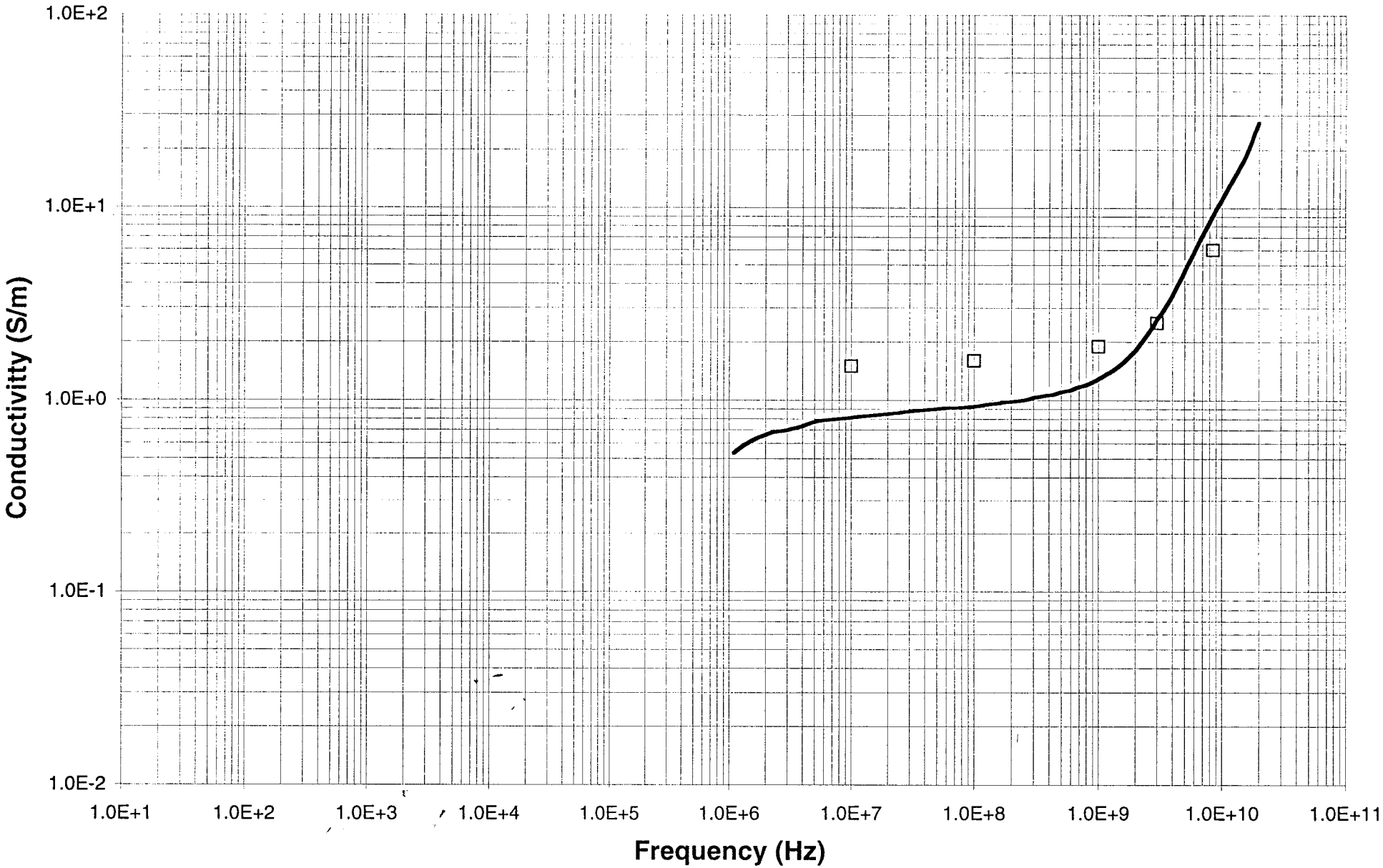
—— Ovine @ 30°C (2E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Cornea
	ε'	ε''	σ (S/m)	
1.000E+7	1.500E+2	2.696E+3	1.500E+0	
1.000E+8	8.000E+1	2.876E+2	1.600E+0	Rabbit @ 37°C
1.000E+9	6.000E+1	3.415E+1	1.900E+0	Gabriel et al,1983
3.000E+9	5.500E+1	1.498E+1	2.500E+0	
8.500E+9	4.000E+1	1.269E+1	6.000E+0	

Cornea


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Cornea


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Cornea

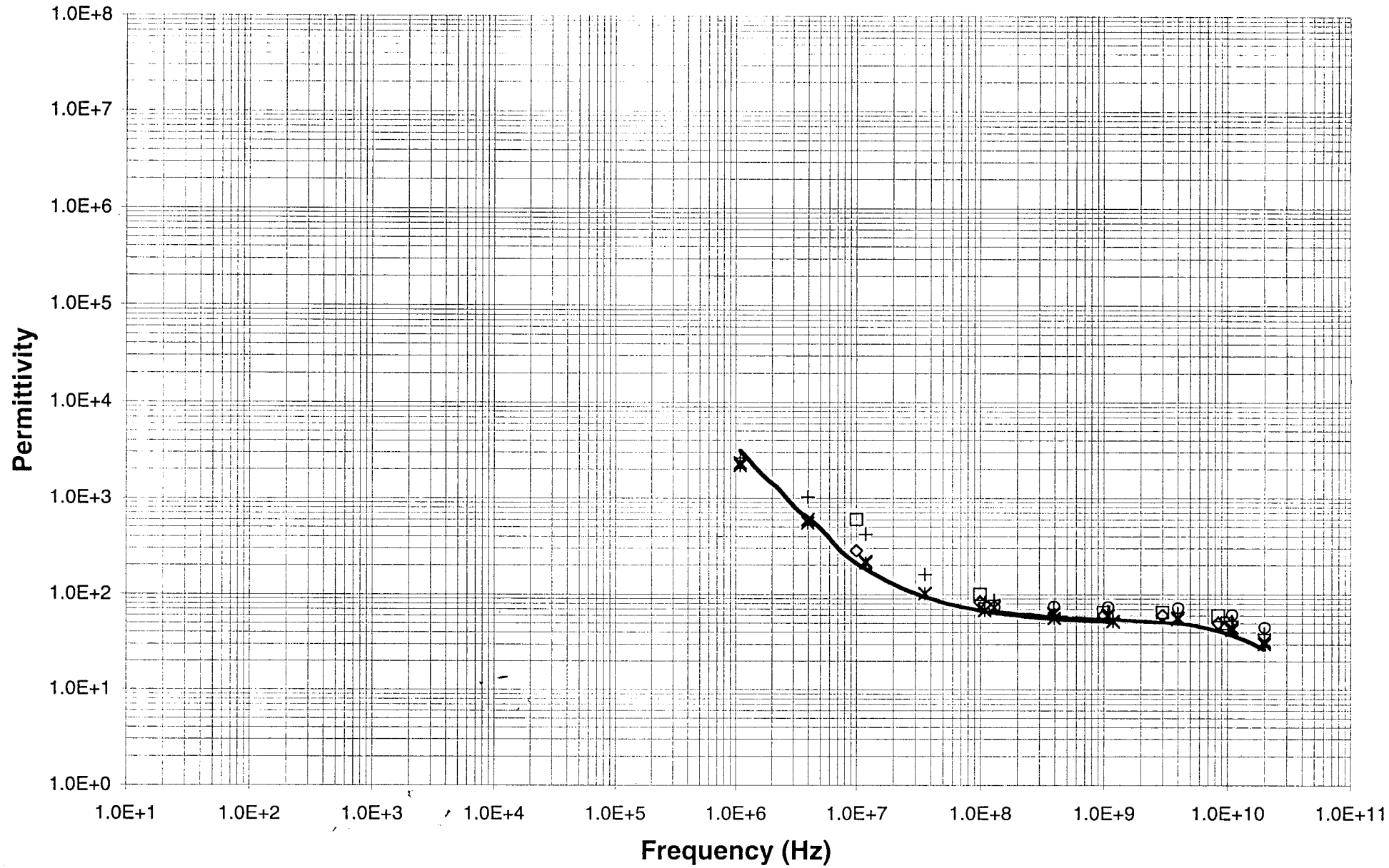
□ Rabbit @ 37°C (1E7-9E9Hz) Gabriel et al,1983

—— Ovine @ 37°C (1E6-2E10Hz) Current study measurements

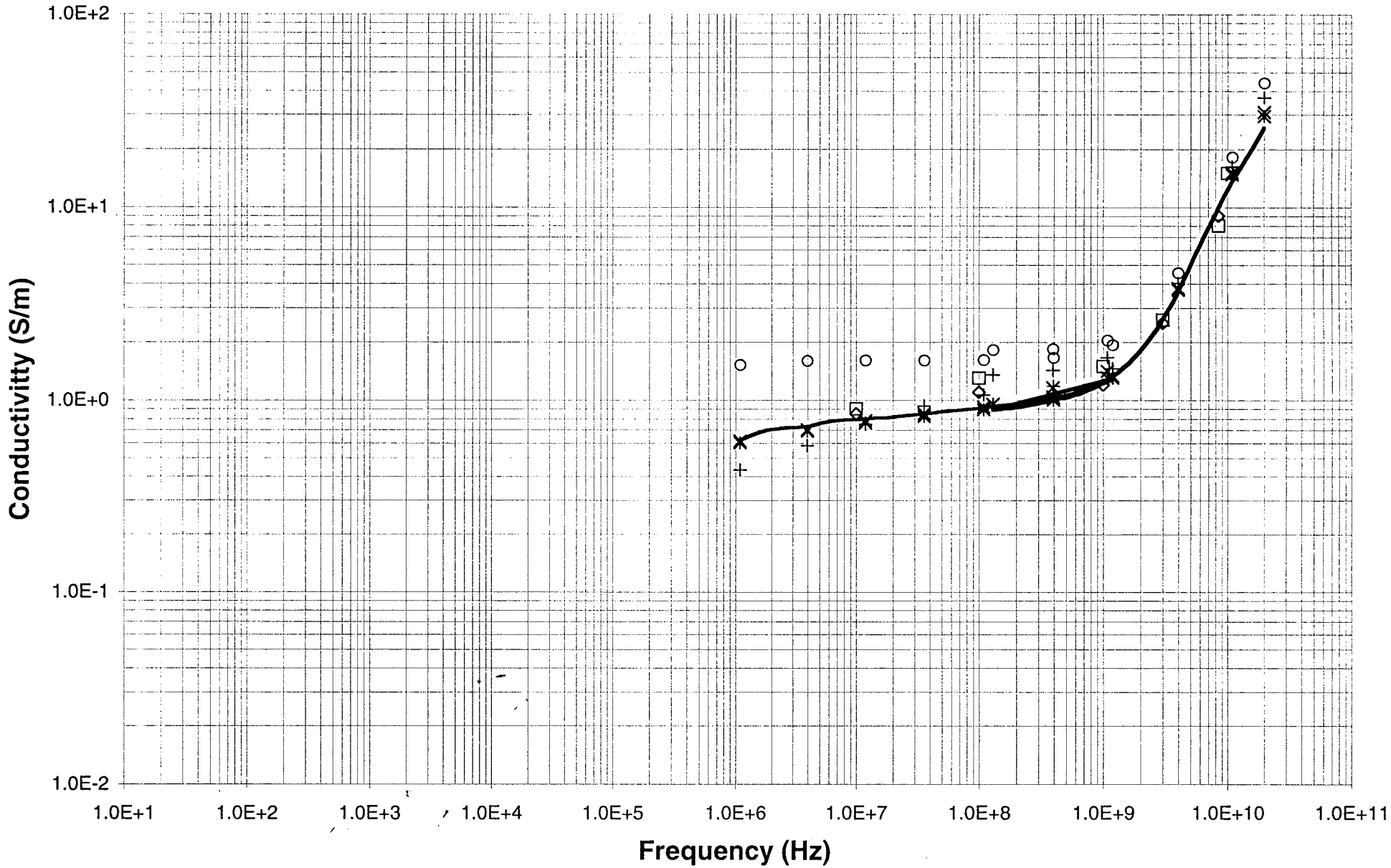
Frequency (Hz)	Properties			Eye Tissues (Sclera)
	ε'	ε''	σ (S/m)	
1.000E+7	6.000E+2	1.618E+3	9.000E-1	
1.000E+8	1.000E+2	2.337E+2	1.300E+0	
1.000E+9	6.500E+1	2.696E+1	1.500E+0	Rabbit (Retina) @ 37°C
3.000E+9	6.500E+1	1.558E+1	2.600E+0	Gabriel et al, 1983
8.500E+9	6.000E+1	1.692E+1	8.000E+0	
1.000E+10	5.000E+1	2.696E+1	1.500E+1	
1.000E+7	2.800E+2	1.528E+3	8.500E-1	
1.000E+8	8.300E+1	1.977E+2	1.100E+0	Rabbit (Iris) @ 37°C
1.000E+9	6.000E+1	2.157E+1	1.200E+0	Gabriel et al, 1983
3.000E+9	6.000E+1	1.498E+1	2.500E+0	
8.500E+9	5.000E+1	1.903E+1	9.000E+0	
1.090E+6		2.502E+4	1.520E+0	
3.950E+6		7.264E+3	1.600E+0	
1.190E+7		2.420E+3	1.610E+0	
3.610E+7		8.030E+2	1.610E+0	
1.090E+8		2.675E+2	1.620E+0	
3.950E+8		7.563E+1	1.660E+0	Ovine (Aqueous Humour) @ 37°C
1.190E+9		2.927E+1	1.940E+0	Current study measurements
1.300E+8	7.354E+1	2.522E+2	1.820E+0	
3.940E+8	7.489E+1	8.404E+1	1.840E+0	
1.080E+9	7.410E+1	3.395E+1	2.040E+0	
3.990E+9	7.213E+1	2.058E+1	4.570E+0	
1.090E+10	6.172E+1	2.993E+1	1.820E+1	
2.000E+10	4.519E+1	3.952E+1	4.398E+1	
1.090E+6	2.301E+3	1.008E+4	6.100E-1	
3.950E+6	5.882E+2	3.201E+3	7.000E-1	
1.190E+7	2.193E+2	1.172E+3	7.800E-1	
3.610E+7	1.020E+2	4.243E+2	8.500E-1	
1.090E+8	6.682E+1	1.523E+2	9.200E-1	
3.950E+8	5.554E+1	4.659E+1	1.030E+0	Ovine (Choroid) @ 37°C
1.190E+9	5.153E+1	1.998E+1	1.330E+0	Current study measurements
3.940E+8	6.360E+1	5.305E+1	1.160E+0	
1.080E+9	6.014E+1	2.353E+1	1.410E+0	
3.990E+9	5.669E+1	1.711E+1	3.800E+0	
1.090E+10	4.477E+1	2.481E+1	1.509E+1	
2.000E+10	3.200E+1	2.770E+1	3.082E+1	
1.090E+6	2.170E+3	9.929E+3	6.000E-1	
3.950E+6	5.495E+2	3.123E+3	6.900E-1	
1.190E+7	2.090E+2	1.137E+3	7.600E-1	
3.610E+7	1.006E+2	4.102E+2	8.200E-1	
1.090E+8	6.754E+1	1.473E+2	8.900E-1	
3.950E+8	5.641E+1	4.533E+1	1.000E+0	Ovine (Iris) @ 37°C
1.190E+9	5.214E+1	1.954E+1	1.300E+0	Current study measurements
1.300E+8	7.226E+1	1.307E+2	9.500E-1	

3.940E+8	6.238E+1	4.769E+1	1.040E+0	
1.080E+9	5.865E+1	2.182E+1	1.310E+0	
3.990E+9	5.461E+1	1.672E+1	3.710E+0	
1.090E+10	4.205E+1	2.411E+1	1.466E+1	
2.000E+10	2.985E+1	2.649E+1	2.947E+1	
1.090E+6	2.610E+3	7.140E+3	4.300E-1	
3.950E+6	1.019E+3	2.615E+3	5.800E-1	
1.190E+7	4.143E+2	1.133E+3	7.500E-1	
3.610E+7	1.600E+2	4.640E+2	9.300E-1	
1.090E+8	8.149E+1	1.756E+2	1.060E+0	
3.950E+8	6.135E+1	5.369E+1	1.180E+0	
1.190E+9	5.662E+1	2.197E+1	1.460E+0	Ovine (Eye Retina) @ 37°C
1.300E+8	8.653E+1	1.861E+2	1.350E+0	Current study measurements
3.940E+8	7.037E+1	6.536E+1	1.430E+0	
1.080E+9	6.671E+1	2.773E+1	1.660E+0	
3.990E+9	6.365E+1	1.813E+1	4.030E+0	
1.090E+10	5.274E+1	2.667E+1	1.622E+1	
2.000E+10	3.860E+1	3.303E+1	3.675E+1	

Eye Tissues (Sclera)



Eye Tissues (Sclera)



Eye Tissues (Sclera)

□ Rabbit (Retina) @ 37°C (1E7-1E10Hz) Gabriel et al, 1983

◇ Rabbit (Iris) @ 37°C (1E7-9E9Hz) Gabriel et al, 1983

○ Ovine (Aqueous Humour) @ 37°C (1E6-2E10Hz) Current study measurements

× Ovine (Choroid) @ 37°C (1E6-2E10Hz) Current study measurements

✳ Ovine (Iris) @ 37°C (1E6-2E10Hz) Current study measurements

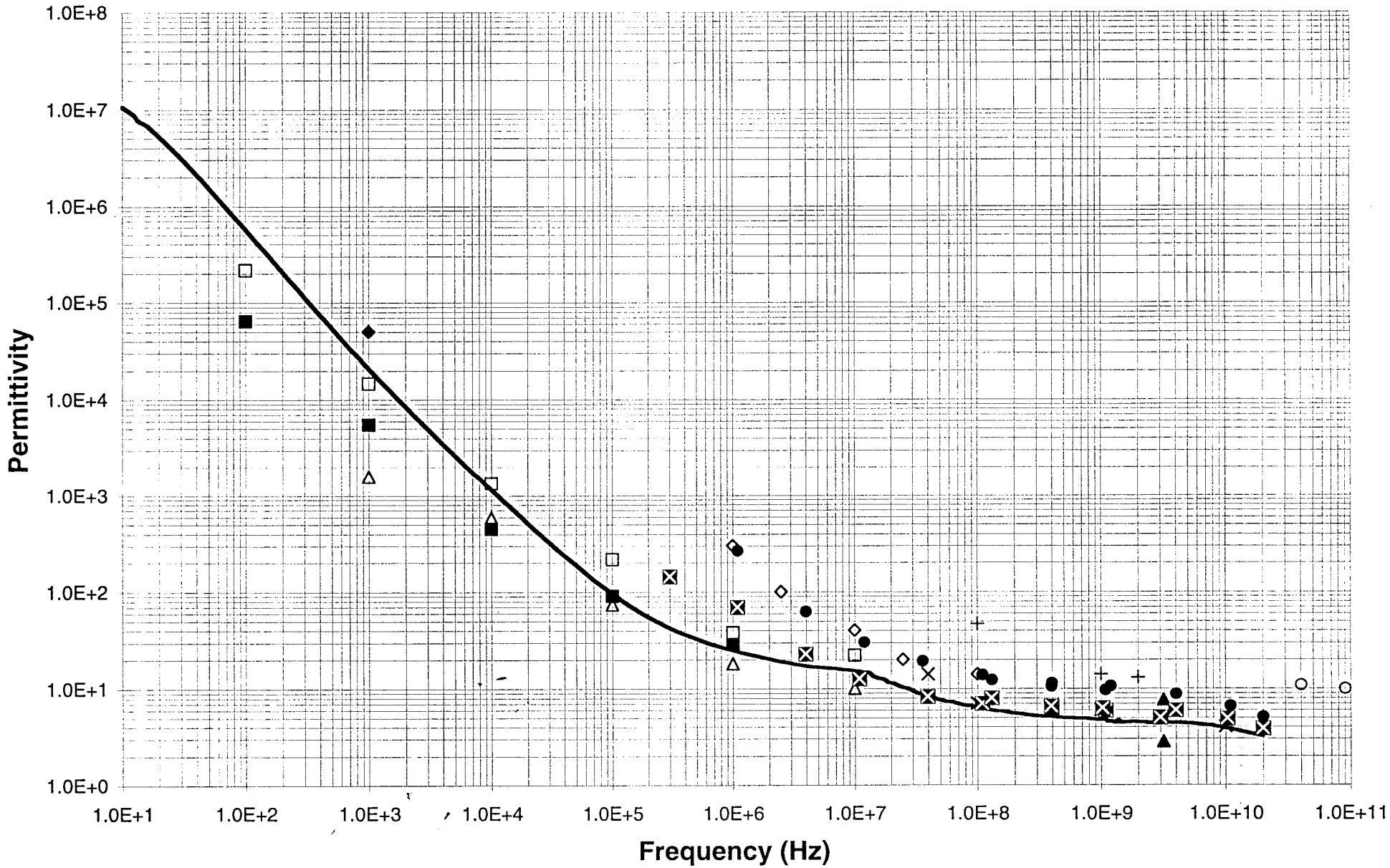
\+ Ovine (Eye Retina) @ 37°C (1E6-2E10Hz) Current study measurements

—— Ovine (Sclera) @ 37°C (1E6-2E10Hz) Current study measurements

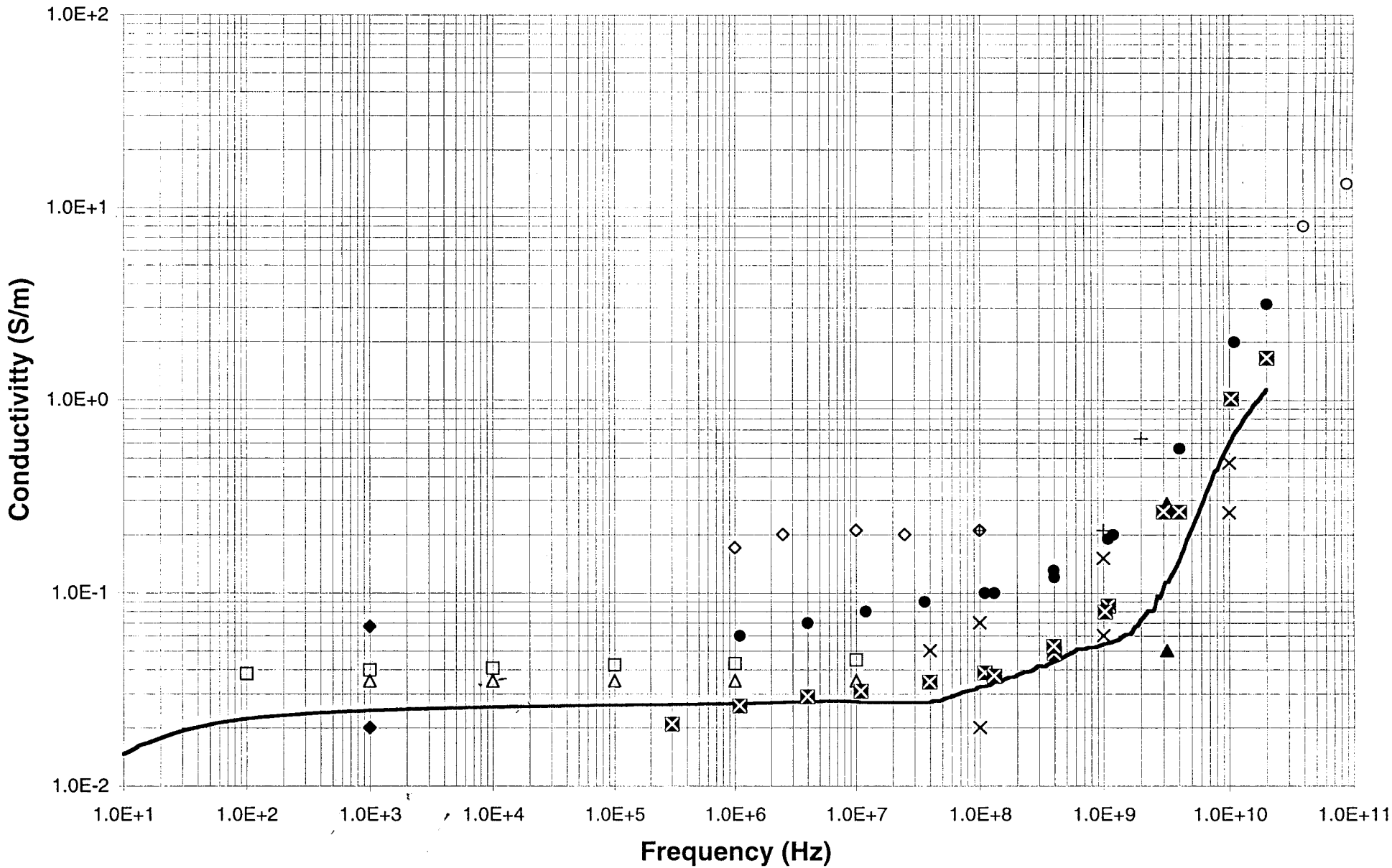
Frequency (Hz)	Properties			Fat
	ε'	ε''	σ (S/m)	
1.000E+2	2.154E+5	6.866E+6	3.820E-2	
1.000E+3	1.468E+4	7.172E+5	3.990E-2	
1.000E+4	1.334E+3	7.334E+4	4.080E-2	Bovine @ 25°C
1.000E+5	2.150E+2	7.603E+3	4.230E-2	Rigaud et al, 1994
1.000E+6	3.800E+1	7.747E+2	4.310E-2	
1.000E+7	2.200E+1	8.071E+1	4.490E-2	
1.000E+6	3.000E+2	3.056E+3	1.700E-1	
2.500E+6	1.000E+2	1.438E+3	2.000E-1	Porcine @ 34-36°C
1.000E+7	4.000E+1	3.775E+2	2.100E-1	Hahn et al, 1980
2.500E+7	2.000E+1	1.438E+2	2.000E-1	
1.000E+8	1.400E+1	3.775E+1	2.100E-1	
1.000E+3	1.585E+3	6.291E+5	3.500E-2	
1.000E+4	5.840E+2	6.291E+4	3.500E-2	Equine & Canine @ 25°C
1.000E+5	7.400E+1	6.291E+3	3.500E-2	Smith & Foster,1985
1.000E+6	1.800E+1	6.291E+2	3.500E-2	
1.000E+7	1.000E+1	6.291E+1	3.500E-2	
4.000E+10	1.100E+1	3.595E+0	8.000E+0	Bovine @ 37°C
9.000E+10	1.000E+1	1.997E+0	1.330E+1	Edrich & Hardee,1976
4.000E+7	1.400E+1	2.247E+1	5.000E-2	
1.000E+8	7.000E+0	3.595E+0	2.000E-2	
1.000E+9	6.000E+0	1.079E+0	6.000E-2	
1.000E+10	4.000E+0	4.674E-1	2.600E-1	Human
4.000E+7	1.400E+1	2.247E+1	5.000E-2	Schwan, 1955
1.000E+8	7.000E+0	1.258E+1	7.000E-2	
1.000E+9	6.000E+0	2.696E+0	1.500E-1	
1.000E+10	4.000E+0	8.448E-1	4.700E-1	
1.000E+8	4.700E+1	3.775E+1	2.100E-1	Canine (In vivo) @ 37°C
1.000E+9	1.400E+1	3.775E+0	2.100E-1	Burdette et al, 1980
2.000E+9	1.300E+1	5.662E+0	6.300E-1	
1.000E+2	6.373E+4	2.696E+5	1.500E-3	
1.000E+3	5.484E+3	3.146E+4	1.750E-3	Porcine (peritoneal
1.000E+4	4.499E+2	4.116E+3	2.290E-3	cavity) @ 22°C
1.000E+5	9.047E+1	4.638E+2	2.580E-3	Kyber et al, 1992
1.000E+6	2.861E+1	5.878E+1	3.270E-3	
1.000E+3	5.000E+4	3.595E+5	2.000E-2	Canine (In situ)
1.000E+3	5.000E+4	1.204E+6	6.700E-2	Schwan 1956,57,63
				(in Durney et al, 1986)
3.200E+9	2.800E+0	2.809E-1	5.000E-2	Human (breast) @ 25°C
3.200E+9	7.600E+0	1.629E+0	2.900E-1	Campbell & Land, 1992
1.090E+6	2.657E+2	1.016E+3	6.000E-2	
3.950E+6	6.317E+1	3.028E+2	7.000E-2	
1.190E+7	3.016E+1	1.129E+2	8.000E-2	
3.610E+7	1.940E+1	4.246E+1	9.000E-2	
1.090E+8	1.387E+1	1.650E+1	1.000E-1	

3.950E+8	1.141E+1	5.670E+0	1.200E-1	Ovine @ 37°C
1.190E+9	1.069E+1	3.040E+0	2.000E-1	Current study measurements
1.300E+8	1.231E+1	1.317E+1	1.000E-1	
3.940E+8	1.058E+1	6.100E+0	1.300E-1	
1.080E+9	9.710E+0	3.110E+0	1.900E-1	
3.990E+9	8.840E+0	2.520E+0	5.600E-1	
1.090E+10	6.650E+0	3.300E+0	2.000E+0	
2.000E+10	5.070E+0	2.830E+0	3.150E+0	
3.000E+5	1.419E+2	1.251E+3	2.088E-2	
1.089E+6	6.930E+1	4.285E+2	2.597E-2	
3.955E+6	2.267E+1	1.322E+2	2.908E-2	
1.089E+7	1.255E+1	5.105E+1	3.094E-2	
3.955E+7	8.246E+0	1.571E+1	3.456E-2	
1.089E+8	7.018E+0	6.370E+0	3.860E-2	
3.955E+8	6.306E+0	2.201E+0	4.844E-2	Human @ 37°C
1.089E+9	5.964E+0	1.413E+0	8.562E-2	Current study measurements
3.000E+9	4.964E+0	1.568E+0	2.616E-1	
1.300E+8	8.014E+0	5.135E+0	3.713E-2	
3.936E+8	6.553E+0	2.414E+0	5.286E-2	
1.025E+9	6.237E+0	1.399E+0	7.977E-2	
3.992E+9	5.905E+0	1.182E+0	2.624E-1	
1.039E+10	4.853E+0	1.754E+0	1.014E+0	
2.000E+10	3.825E+0	1.483E+0	1.650E+0	

Fat


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Fat


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Fat

□ Bovine @ 25°C (1E2-1E7Hz) Rigaud et al, 1994

◇ Porcine @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

△ Equine & Canine @ 25°C (1E3-1E7Hz) Smith & Foster,1985

○ Bovine @ 37°C (4E10-7E10Hz) Edrich & Hardee,1976

× Human (4E7-1E10Hz) Schwan, 1955

\+ Canine (In vivo) @ 37°C (1E8-2E9Hz) Burdette et al, 1980

■ Porcine (peritoneal cavity) @ 22°C (1E2-1E6Hz) Kyber et al, 1992

◆ Canine (In situ) (1E3Hz) Schwan 1956,57,63 (in Durney et al, 1986)

▲ Human (breast) @ 25°C (3E9Hz) Land & Campbell, 1992

● Ovine@ 37°C (1E6-2E10Hz) Current study measurements

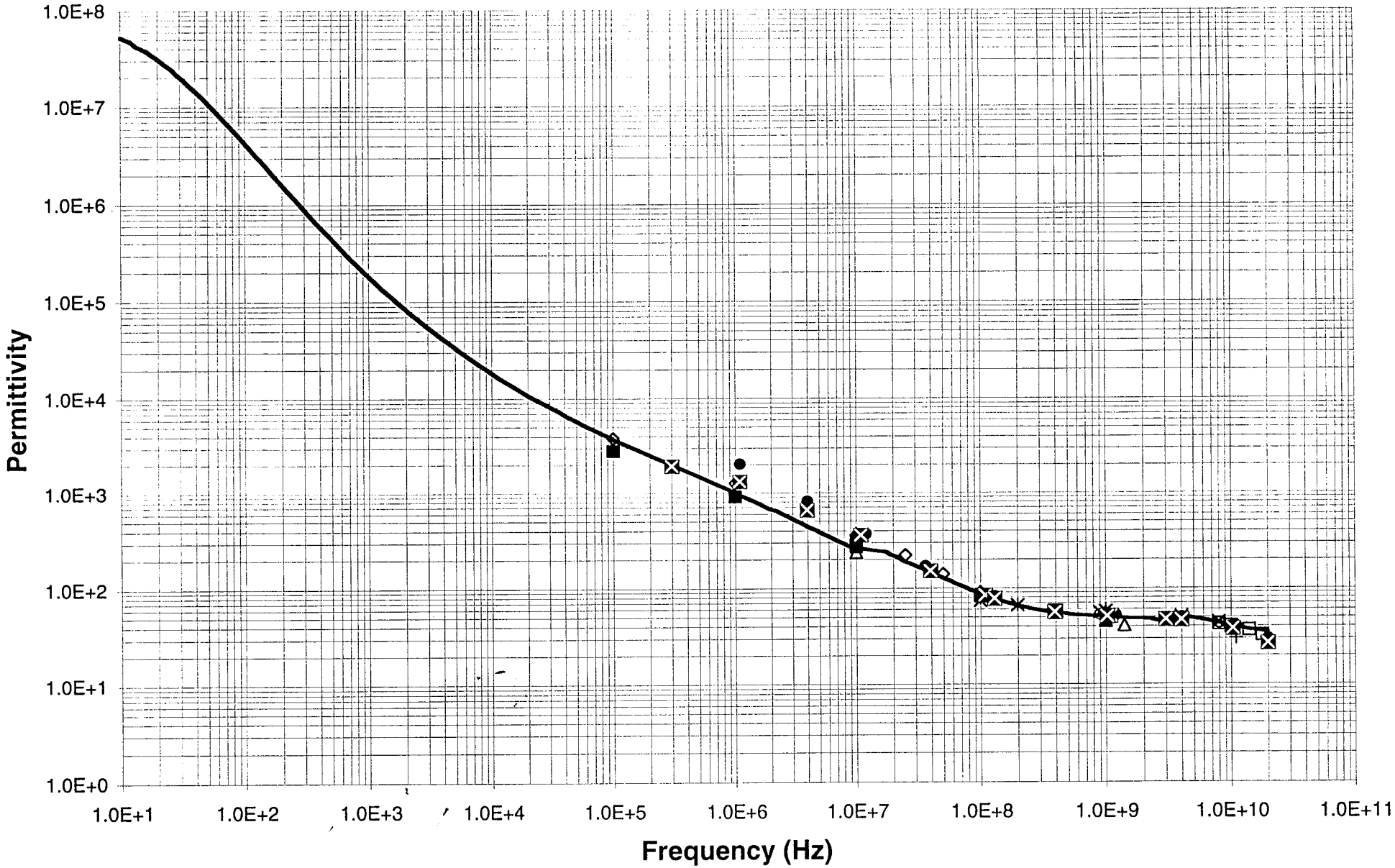
⊠ Human @ 37°C (3E5-2E10Hz) Current study measurements

—— Bovine Fat @ 37°C (1E1-2E10Hz) Current study measurements

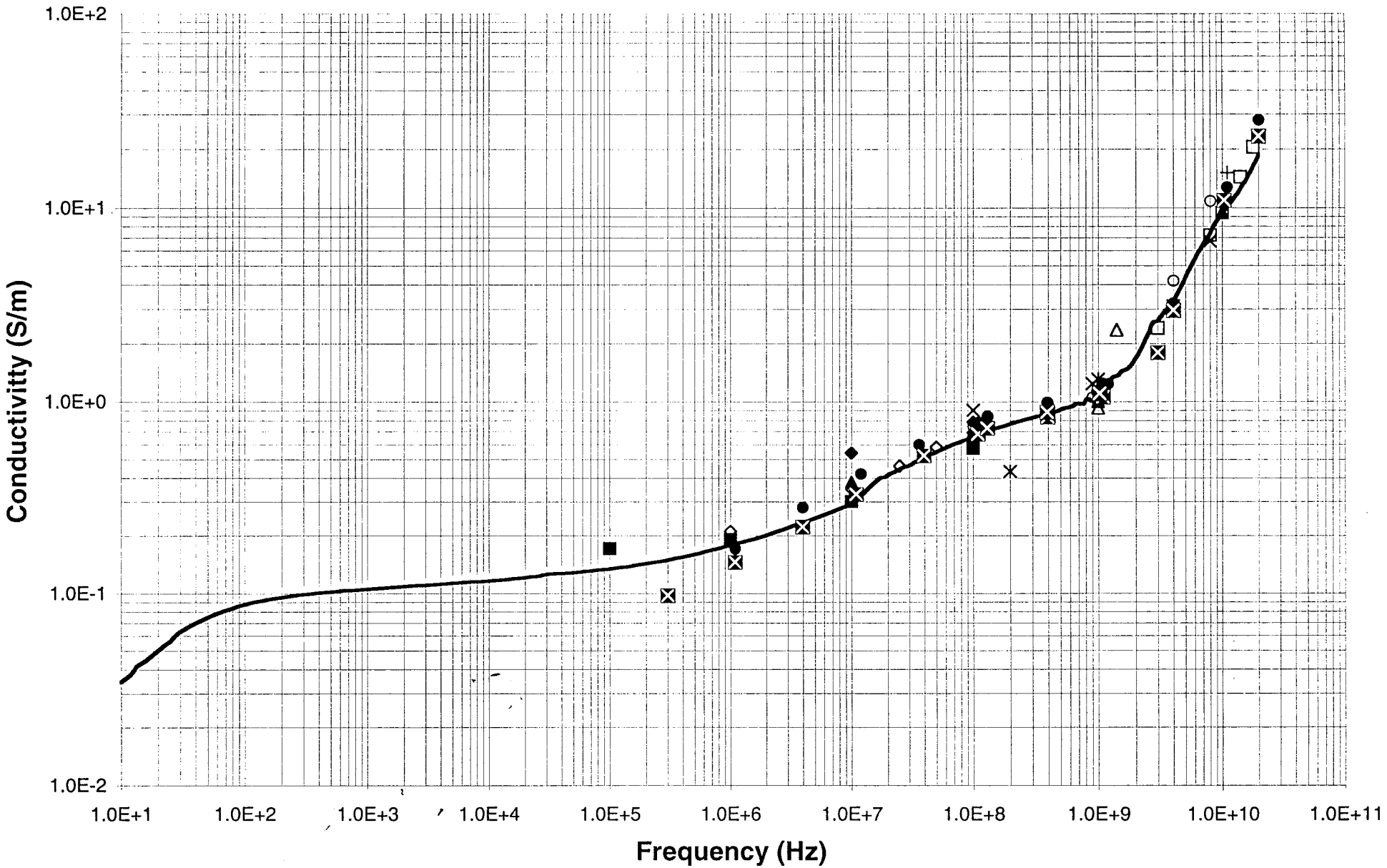
Frequency (Hz)	Properties			Grey Matter
	ε'	ε''	σ (S/m)	
3.000E+9	4.740E+1	1.438E+1	2.400E+0	
4.000E+9	4.740E+1	1.348E+1	3.000E+0	
8.000E+9	4.200E+1	1.618E+1	7.200E+0	Rabbit @ 37°C
1.000E+10	4.000E+1	1.690E+1	9.400E+0	Steel & Sheppard, 1985
1.400E+10	3.640E+1	1.849E+1	1.440E+1	
1.800E+10	3.240E+1	2.037E+1	2.040E+1	
1.000E+5	3.800E+3	3.056E+4	1.700E-1	
1.000E+6	1.250E+3	3.775E+3	2.100E-1	
1.000E+7	3.520E+2	6.291E+2	3.500E-1	Canine @ 37°C
2.500E+7	2.220E+2	3.307E+2	4.600E-1	Stoy et al, 1982
5.000E+7	1.400E+2	2.085E+2	5.800E-1	
1.000E+8	9.000E+1	1.240E+2	6.900E-1	
1.000E+7	2.367E+2	5.680E+2	3.160E-1	
1.000E+8	8.570E+1	1.109E+2	6.170E-1	Mouse @ 37°C
1.000E+9	4.490E+1	1.666E+1	9.270E-1	Thurai et al, 1984
1.400E+9	4.080E+1	3.016E+1	2.349E+0	
1.000E+8	8.540E+1	1.348E+2	7.500E-1	
9.000E+8	5.260E+1	2.097E+1	1.050E+0	Rat (In vivo) 32°C +/- 1°C
4.000E+9	4.850E+1	1.878E+1	4.180E+0	Kraszewski et al, 1982
8.000E+9	4.350E+1	2.427E+1	1.080E+1	
1.000E+8	7.300E+1	1.618E+2	9.000E-1	
9.000E+8	5.500E+1	2.457E+1	1.230E+0	Feline (In vivo) @ 36°C
4.000E+9	5.000E+1	1.393E+1	3.100E+0	Kraszewski et al, 1982
8.000E+9	4.400E+1	1.505E+1	6.700E+0	
2.000E+8	6.600E+1	3.865E+1	4.300E-1	Canine (In situ) @ 36°C
1.000E+9	5.700E+1	2.337E+1	1.300E+0	Burdette et al, 1986
4.000E+9	4.800E+1	1.308E+1	2.910E+0	
1.000E+8	7.753E+1	1.114E+2	6.200E-1	Canine @ 20°C +/- 1°C
1.000E+9	5.879E+1	1.959E+1	1.090E+0	Xu et al, 1987
1.100E+10	3.001E+1	2.472E+1	1.513E+1	
1.000E+5	2.800E+3	3.056E+4	1.700E-1	
1.000E+6	9.000E+2	3.415E+3	1.900E-1	Bovine @ 24-25°C
1.000E+7	2.700E+2	5.393E+2	3.000E-1	Suroweic et al, 1986
1.000E+8	8.300E+1	1.025E+2	5.700E-1	
1.000E+7	2.990E+2	9.707E+2	5.400E-1	Feline (In vivo) @ 33°C
1.000E+8	8.100E+1	1.402E+2	7.800E-1	Stuchly et al, 1981
1.000E+9	5.300E+1	2.049E+1	1.140E+0	(in Durney et al, 1986)
1.000E+7	3.700E+2	6.795E+2	3.780E-1	
1.000E+8	9.000E+1	1.249E+2	6.950E-1	Canine @ 37°C
1.000E+9	4.600E+1	1.799E+1	1.001E+0	Foster et al, 1979
1.000E+10	3.900E+1	1.700E+1	9.457E+0	(in Stuchly & Stuchly, 1980)
1.090E+6	2.028E+3	2.832E+3	1.700E-1	
3.950E+6	8.069E+2	1.259E+3	2.800E-1	
1.190E+7	3.682E+2	6.262E+2	4.200E-1	

3.610E+7	1.706E+2	2.979E+2	6.000E-1	
1.090E+8	8.654E+1	1.287E+2	7.800E-1	
3.950E+8	5.783E+1	4.349E+1	9.600E-1	Ovine @ 37°C
1.190E+9	5.228E+1	1.845E+1	1.230E+0	Current study measurements
1.300E+8	8.185E+1	1.164E+2	8.400E-1	
3.940E+8	5.872E+1	4.543E+1	9.900E-1	
1.080E+9	5.296E+1	2.070E+1	1.240E+0	
3.990E+9	4.922E+1	1.440E+1	3.200E+0	
1.090E+10	4.034E+1	2.097E+1	1.275E+1	
2.000E+10	2.961E+1	2.517E+1	2.800E+1	
3.000E+5	1.923E+3	5.830E+3	9.720E-2	
1.089E+6	1.307E+3	2.377E+3	1.443E-1	
3.955E+6	6.510E+2	1.009E+3	2.220E-1	
1.089E+7	3.587E+2	5.423E+2	3.287E-1	
3.955E+7	1.513E+2	2.370E+2	5.213E-1	
1.089E+8	8.317E+1	1.120E+2	6.793E-1	
3.955E+8	5.707E+1	3.797E+1	8.360E-1	Human @ 37°C
1.089E+9	5.123E+1	1.740E+1	1.057E+0	Current study measurements
3.000E+9	4.697E+1	1.074E+1	1.797E+0	
1.300E+8	7.697E+1	1.008E+2	7.300E-1	
3.936E+8	5.550E+1	4.017E+1	8.797E-1	
1.025E+9	5.050E+1	1.930E+1	1.100E+0	
3.992E+9	4.617E+1	1.327E+1	2.943E+0	
1.039E+10	3.760E+1	1.880E+1	1.087E+1	
2.000E+10	2.663E+1	2.080E+1	2.317E+1	

Grey Matter


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Grey Matter


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Grey Matter

□ Rabbit @ 37°C (3E9-2E10Hz) Steel & Sheppard, 1985

◇ Canine @ 37°C (1E5-1E8Hz) Stoy et al, 1982

△ Mouse @ 37°C (1E7-1E9Hz) Thurai et al, 1984

○ Rat (In vivo) 32°C +/- 1°C (1E8-8E9Hz) Kraszewski et al, 1982

× Feline (In vivo) @ 36°C (1E8-8E9Hz) Kraszewski et al, 1982

✳ Canine (In situ) @ 36°C (2E8-4E9Hz) Burdette et al, 1986

\+ Canine @ 20°C +/- 1°C (1E8-1E10Hz) Xu et al, 1987

■ Bovine @ 24-25°C (1E5-1E8Hz) Suroweic et al, 1986b

◆ Feline (In vivo) @ 33°C (1E7-1E9Hz) Stuchly et al, 1981

▲ Canine @ 37°C (1E8-1E10Hz) Foster et al, 1979

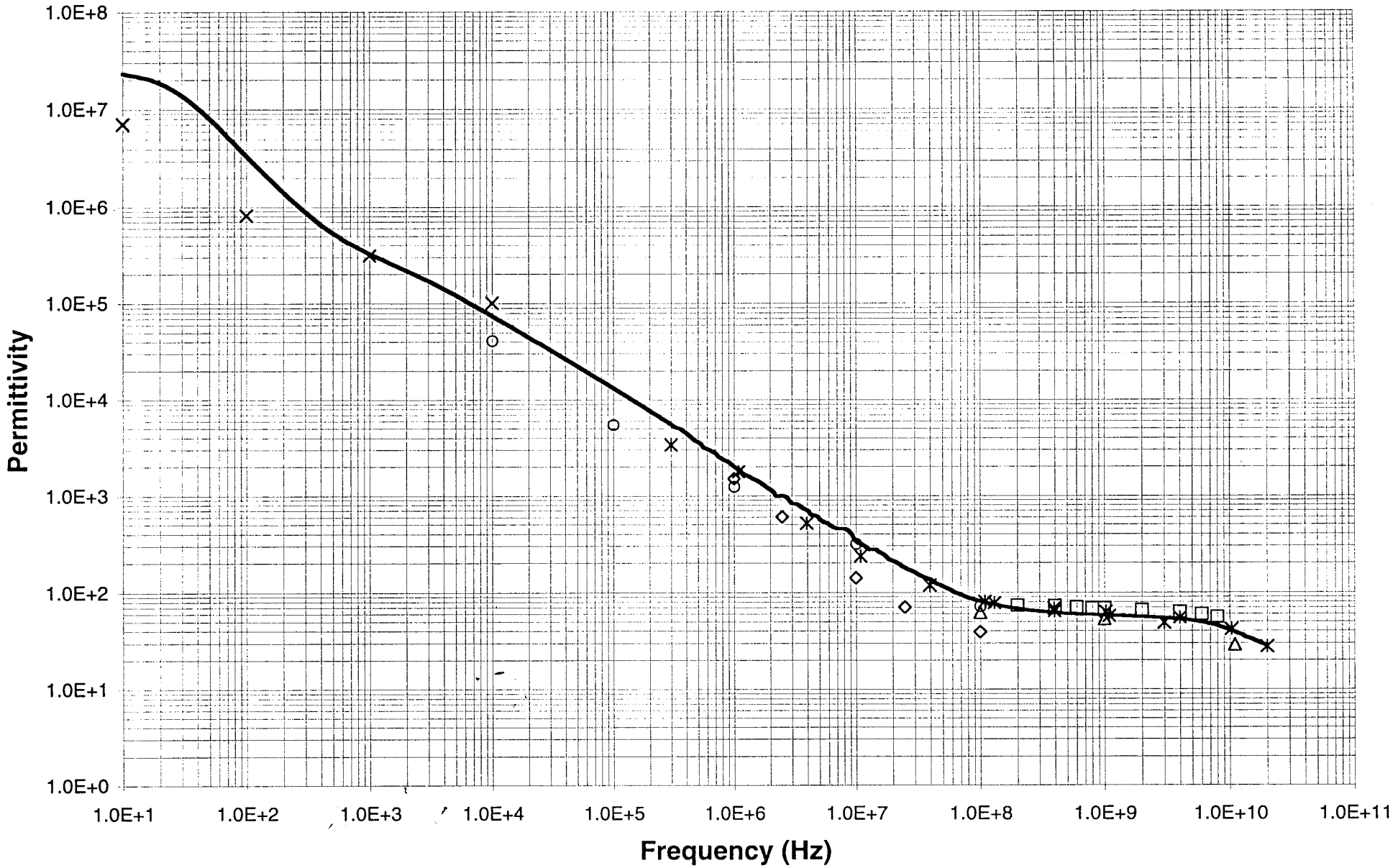
● Ovine @ 37°C (1E6-2E10Hz) Current study measurements

⊠ Human @ 37°C (3E5-2E10Hz) Current study measurements

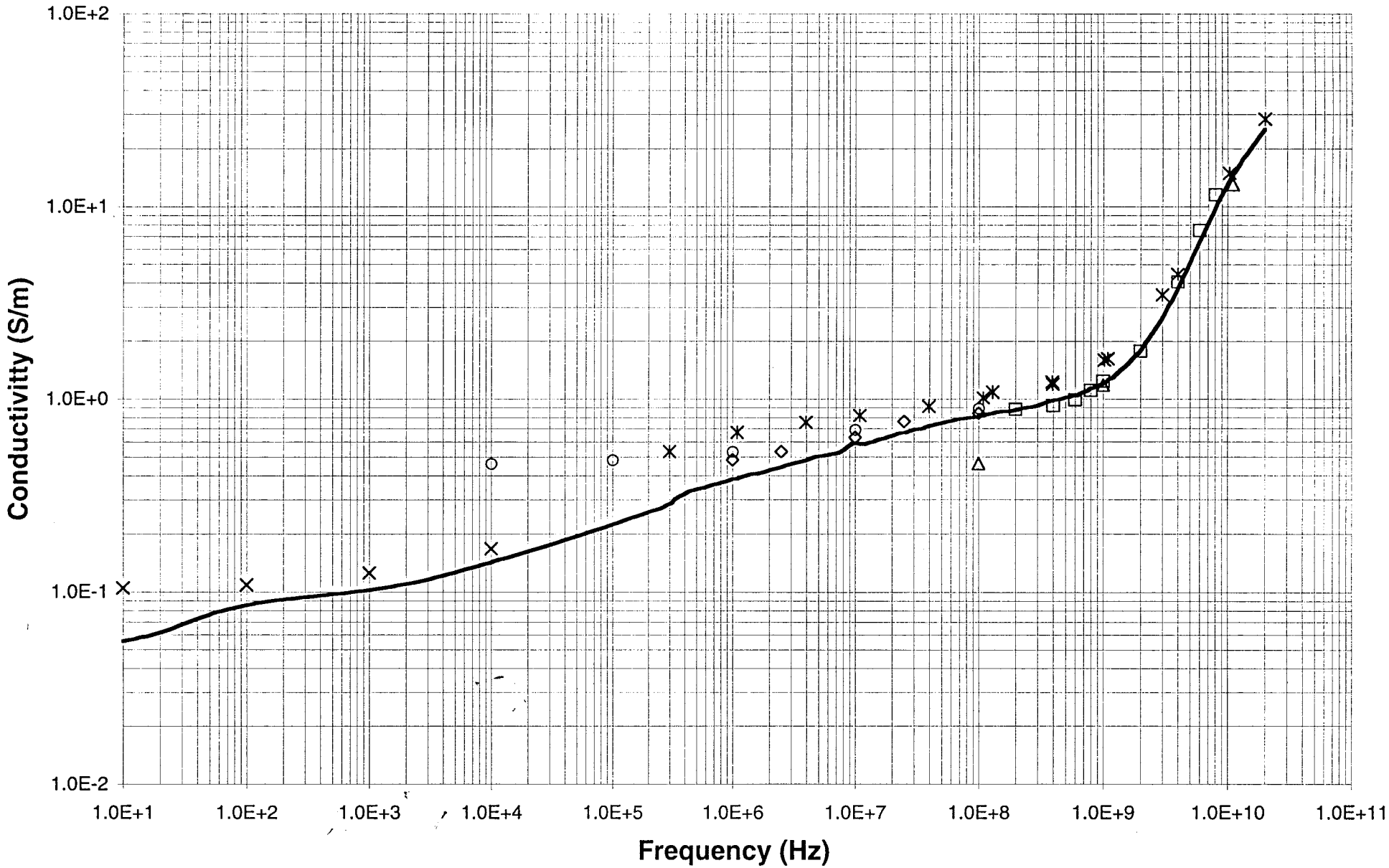
—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Heart
	ε'	ε''	σ (S/m)	
2.000E+8	7.313E+1	7.909E+1	8.800E-1	
4.000E+8	7.227E+1	4.134E+1	9.200E-1	
6.000E+8	7.031E+1	2.966E+1	9.900E-1	
8.000E+8	6.881E+1	2.494E+1	1.110E+0	Bullfrog (In vivo-muscle)
1.000E+9	6.848E+1	2.229E+1	1.240E+0	@ 22°C
2.000E+9	6.565E+1	1.591E+1	1.770E+0	Schwartz & Mealing, 1985
4.000E+9	6.259E+1	1.829E+1	4.070E+0	
6.000E+9	5.934E+1	2.250E+1	7.510E+0	
8.000E+9	5.544E+1	2.582E+1	1.149E+1	
1.000E+6	1.500E+3	8.628E+3	4.800E-1	
2.500E+6	6.000E+2	3.811E+3	5.300E-1	Porcine (In vivo) @ 34-36°C
1.000E+7	1.400E+2	1.132E+3	6.300E-1	Hahn et al,1980
2.500E+7	7.000E+1	5.464E+2	7.600E-1	
1.000E+8	3.900E+1	1.510E+2	8.400E-1	
1.000E+8	6.125E+1	8.269E+1	4.600E-1	Canine @ 20°C +/-1°C
1.000E+9	5.300E+1	2.121E+1	1.180E+0	Xu et al, 1987
1.100E+10	2.875E+1	2.118E+1	1.296E+1	
1.000E+4	4.080E+4	8.269E+5	4.600E-1	
1.000E+5	5.500E+3	8.628E+4	4.800E-1	Human (muscle) @ 36.8°C
1.000E+6	1.245E+3	9.527E+3	5.300E-1	Suroweic et al,1987
1.000E+7	3.120E+2	1.240E+3	6.900E-1	
1.000E+8	7.190E+1	1.600E+2	8.900E-1	
1.000E+1	7.000E+6	1.869E+8	1.040E-1	Canine (In situ-muscle) @ 37°C
1.000E+2	8.100E+5	1.941E+7	1.080E-1	Schwan 56,57,63
1.000E+3	3.100E+5	2.247E+6	1.250E-1	(in Durney et al, 1986)
1.000E+4	1.000E+5	3.002E+5	1.670E-1	
3.000E+5	3.337E+3	3.173E+4	5.297E-1	
1.089E+6	1.763E+3	1.100E+4	6.660E-1	
3.955E+6	5.137E+2	3.420E+3	7.520E-1	
1.089E+7	2.343E+2	1.353E+3	8.183E-1	
3.955E+7	1.167E+2	4.150E+2	9.133E-1	
1.089E+8	8.017E+1	1.667E+2	1.010E+0	
3.955E+8	6.337E+1	5.403E+1	1.190E+0	
1.089E+9	5.677E+1	2.663E+1	1.617E+0	Human @ 37°C
3.000E+9	4.853E+1	2.090E+1	3.483E+0	Current study measurements
1.300E+8	7.720E+1	1.490E+2	1.083E+0	
3.936E+8	6.755E+1	5.588E+1	1.223E+0	
1.025E+9	6.255E+1	2.785E+1	1.588E+0	
3.992E+9	5.478E+1	2.003E+1	4.445E+0	
1.039E+10	4.135E+1	2.565E+1	1.483E+1	
2.000E+10	2.725E+1	2.545E+1	2.833E+1	

Heart


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Heart


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivity (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Heart

□ Bullfrog (In vivo) @ 22°C (2E8-8E9Hz) Schwartz & Mealing, 1985

◇ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al,1980

△ Canine @ 20°C +/-1°C (1E8-1E10Hz) Xu et al, 1987

○ Human @ 36.8°C (1E4-1E8Hz) Suroweic et al,1987

× Canine (In situ) @ 37°C (1E1-1E4Hz) Schwan 1956,1957,1963

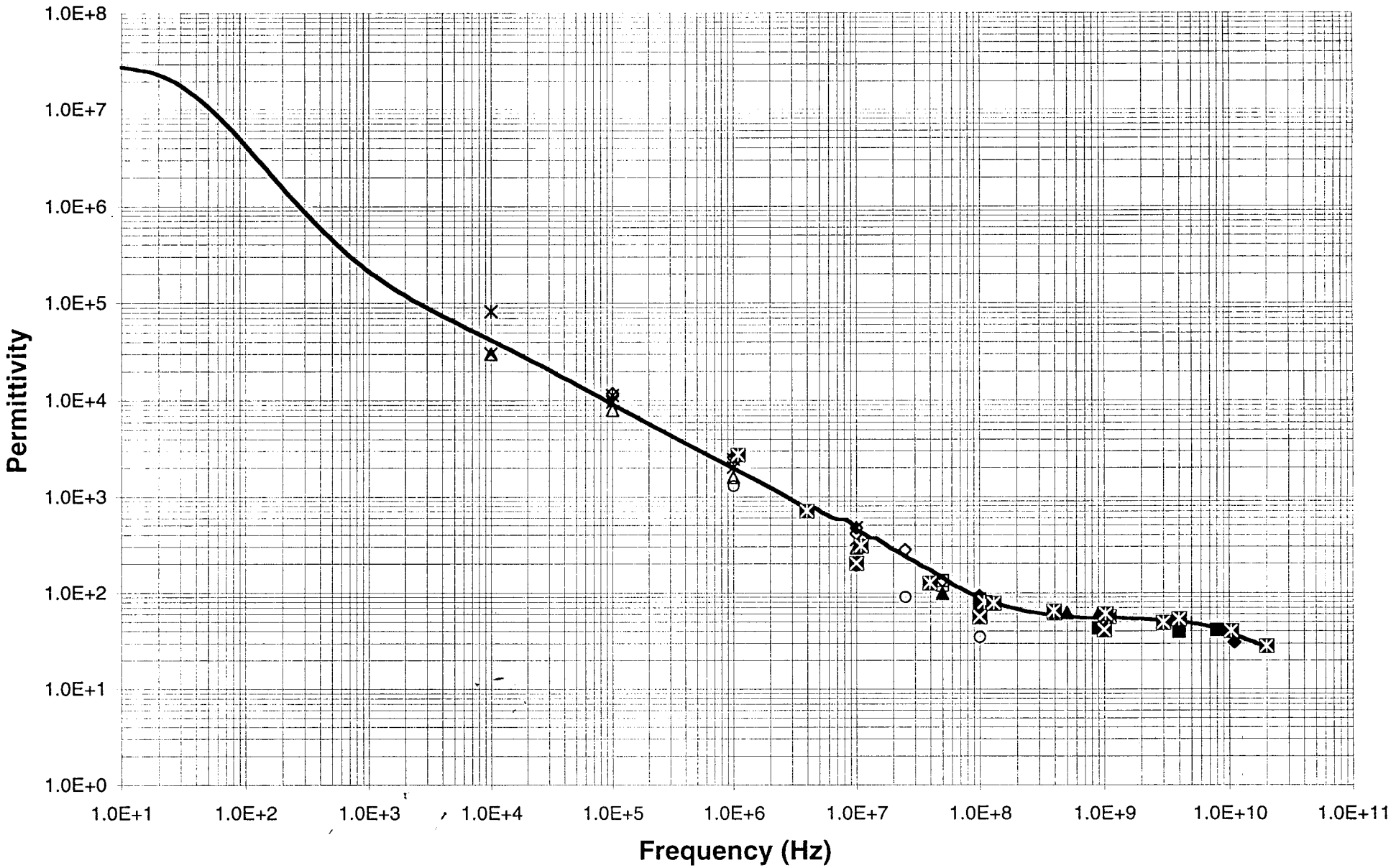
✳ Human @ 37°C (3E5-2E10Hz) Current study measurements

—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

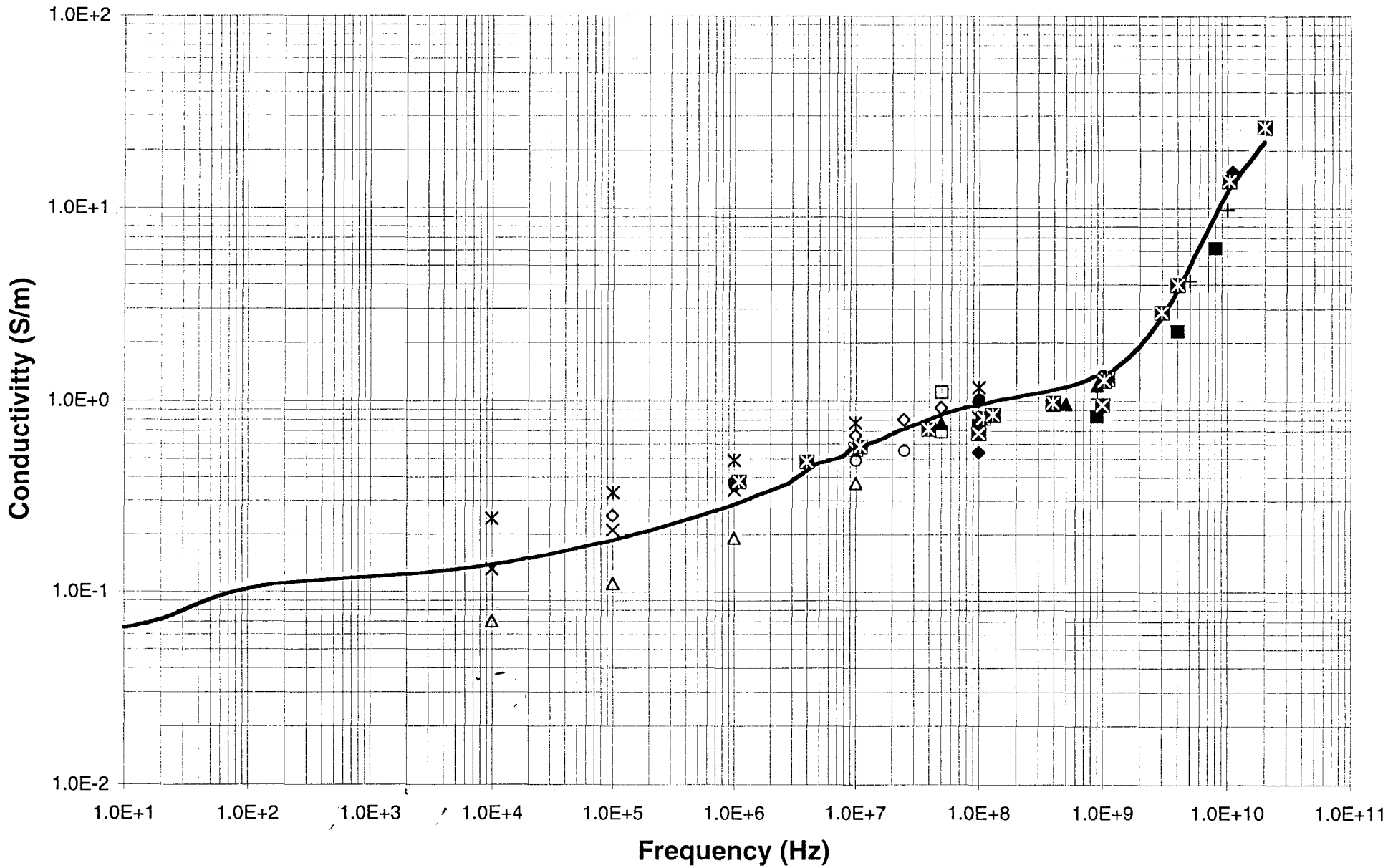
Frequency (Hz)	Properties			Kidney
	ε'	ε''	σ (S/m)	
5.000E+7	1.190E+2	2.481E+2	6.900E-1	Porcine & Bovine @ 37°C
5.000E+7	1.320E+2	3.990E+2	1.110E+0	Osswald, 1937 (in Stoy et al, 1982)
1.000E+5	1.170E+4	4.494E+4	2.500E-1	
1.000E+6	2.540E+3	6.831E+3	3.800E-1	
1.000E+7	4.650E+2	1.186E+3	6.600E-1	Canine @ 37°C
2.500E+7	2.760E+2	5.752E+2	8.000E-1	Stoy et al,1982
5.000E+7	1.320E+2	3.307E+2	9.200E-1	
1.000E+8	9.200E+1	1.780E+2	9.900E-1	
1.000E+4	2.988E+4	1.258E+5	7.000E-2	
1.000E+5	7.973E+3	1.977E+4	1.100E-1	Bovine @ 25°C
1.000E+6	1.573E+3	3.415E+3	1.900E-1	Surowiec etal, 1985
1.000E+7	2.880E+2	6.651E+2	3.700E-1	
1.000E+8	7.400E+1	1.204E+2	6.700E-1	
1.000E+6	1.300E+3	6.471E+3	3.600E-1	
1.000E+7	1.900E+2	8.808E+2	4.900E-1	Porcine (In vivo) @ 34-36°C
2.500E+7	9.000E+1	4.494E+2	5.500E-1	Hahn et al, 1980
1.000E+8	3.500E+1	1.258E+2	7.000E-1	
1.000E+4	3.000E+4	2.337E+5	1.300E-1	
1.000E+5	9.600E+3	3.775E+4	2.100E-1	Feline (In vivo) @ 34.7°C+/-0.9°C
1.000E+6	2.000E+3	6.112E+3	3.400E-1	Suroweic et al, 1986
1.000E+7	3.500E+2	1.025E+3	5.700E-1	
1.000E+8	6.000E+1	1.474E+2	8.200E-1	
1.000E+4	8.140E+4	4.314E+5	2.400E-1	
1.000E+5	1.120E+4	5.932E+4	3.300E-1	Human @ 36.5°C
1.000E+6	2.450E+3	8.808E+3	4.900E-1	Suroweic et al, 1987
1.000E+7	4.690E+2	1.384E+3	7.700E-1	
1.000E+8	8.350E+1	2.103E+2	1.170E+0	
1.000E+8	7.250E+1	1.438E+2	8.000E-1	
9.000E+8	5.260E+1	2.057E+1	1.030E+0	Rat (In vivo) @ 32°C +/-1°C
5.000E+9	4.800E+1	1.499E+1	4.170E+0	Kraszewski et al, 1982
1.000E+10	3.970E+1	1.751E+1	9.740E+0	
1.000E+8	8.500E+1	1.348E+2	7.500E-1	
9.000E+8	4.300E+1	1.658E+1	8.300E-1	Feline (In vivo) @ 36°C +/-2°C
4.000E+9	3.950E+1	1.034E+1	2.300E+0	Kraszewski et al, 1982
8.000E+9	4.100E+1	1.382E+1	6.150E+0	
1.000E+8	6.830E+1	9.707E+1	5.400E-1	Canine @ 20 °C+/-1°C
1.000E+9	5.577E+1	1.708E+1	9.500E-1	Xu et al, 1987
1.100E+10	3.071E+1	2.508E+1	1.535E+1	
5.000E+7	9.700E+1	2.732E+2	7.600E-1	
1.000E+8	7.200E+1	1.384E+2	7.700E-1	Human @ 23-25°C
5.000E+8	6.180E+1	3.451E+1	9.600E-1	Joines et al, 1994
9.000E+8	6.100E+1	2.397E+1	1.200E+0	
1.000E+8	7.800E+1	1.833E+2	1.020E+0	Canine (In vivo)
1.000E+9	5.300E+1	2.445E+1	1.360E+0	Burdette et al, 1980
4.000E+9	4.700E+1	1.806E+1	4.020E+0	

1.000E+7	2.010E+2	1.007E+3	5.600E-1	Feline (In vivo) @ 35 °C+/-1°C
1.000E+8	5.600E+1	1.222E+2	6.800E-1	Stuchly et al, 1981
1.000E+9	4.100E+1	1.708E+1	9.500E-1	
1.089E+6	2.718E+3	6.226E+3	3.773E-1	
3.955E+6	7.048E+2	2.191E+3	4.821E-1	
1.089E+7	3.045E+2	9.540E+2	5.781E-1	
3.955E+7	1.254E+2	3.241E+2	7.130E-1	
1.089E+8	7.932E+1	1.345E+2	8.148E-1	
3.955E+8	6.118E+1	4.382E+1	9.641E-1	
1.089E+9	5.615E+1	2.143E+1	1.298E+0	Human @ 37°C
3.000E+9	4.907E+1	1.716E+1	2.864E+0	Current study measurements
1.300E+8	7.751E+1	1.172E+2	8.476E-1	
3.936E+8	6.458E+1	4.480E+1	9.810E-1	
1.025E+9	6.002E+1	2.229E+1	1.271E+0	
3.992E+9	5.364E+1	1.789E+1	3.973E+0	
1.039E+10	4.018E+1	2.379E+1	1.375E+1	
2.000E+10	2.813E+1	2.355E+1	2.620E+1	

Kidney


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Kidney


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Kidney

□ Porcine & Bovine @ 37°C (5E7Hz) Osswald, 1937 (in Stoy et al, 1982)

◇ Canine @ 37°C (1E5-1E8Hz) Stoy et al,1982

△ Bovine @ 25°C (1E4-1E8Hz) Surowiec etal, 1985

○ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

× Feline (In vivo) @ 34.7°C+/-0.9°C (1E4-1E8Hz) Suroweic et al, 1986

✳ Human @ 36.5°C (1E4-1E8Hz) Suroweic et al, 1987

+ Rat (In vivo) @ 32°C +/-1°C (1E8-1E10Hz) Kraszewski et al, 1982

■ Feline (In vivo) @ 36°C +/-2°C (1E8-8E9Hz) Kraszewski et al, 1982

◆ Canine @ 20 °C+/-1°C (1E8-1E10Hz) Xu et al, 1987

▲ Human @ 23-25°C (5E7-9E8Hz) Joines et al, 1994

● Canine (In vivo) (1E8-4E9Hz) Burdette et al, 1980

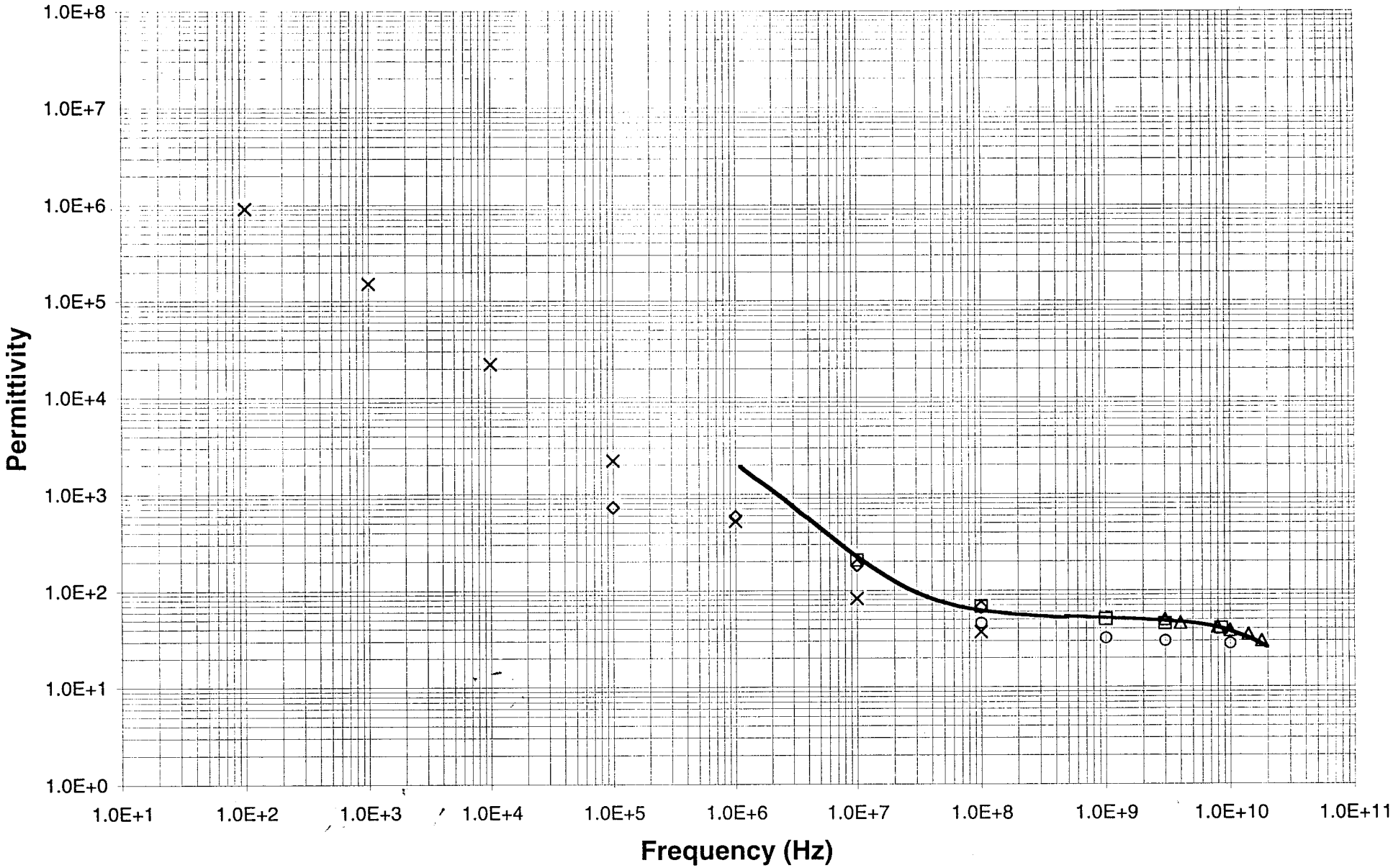
⊠ Feline (In vivo) @ 35 °C+/-1°C (1E7-1E9Hz) Stuchly et al, 1981

⊠ Human @ 37°C (1E6-2E10Hz) Current study measurements

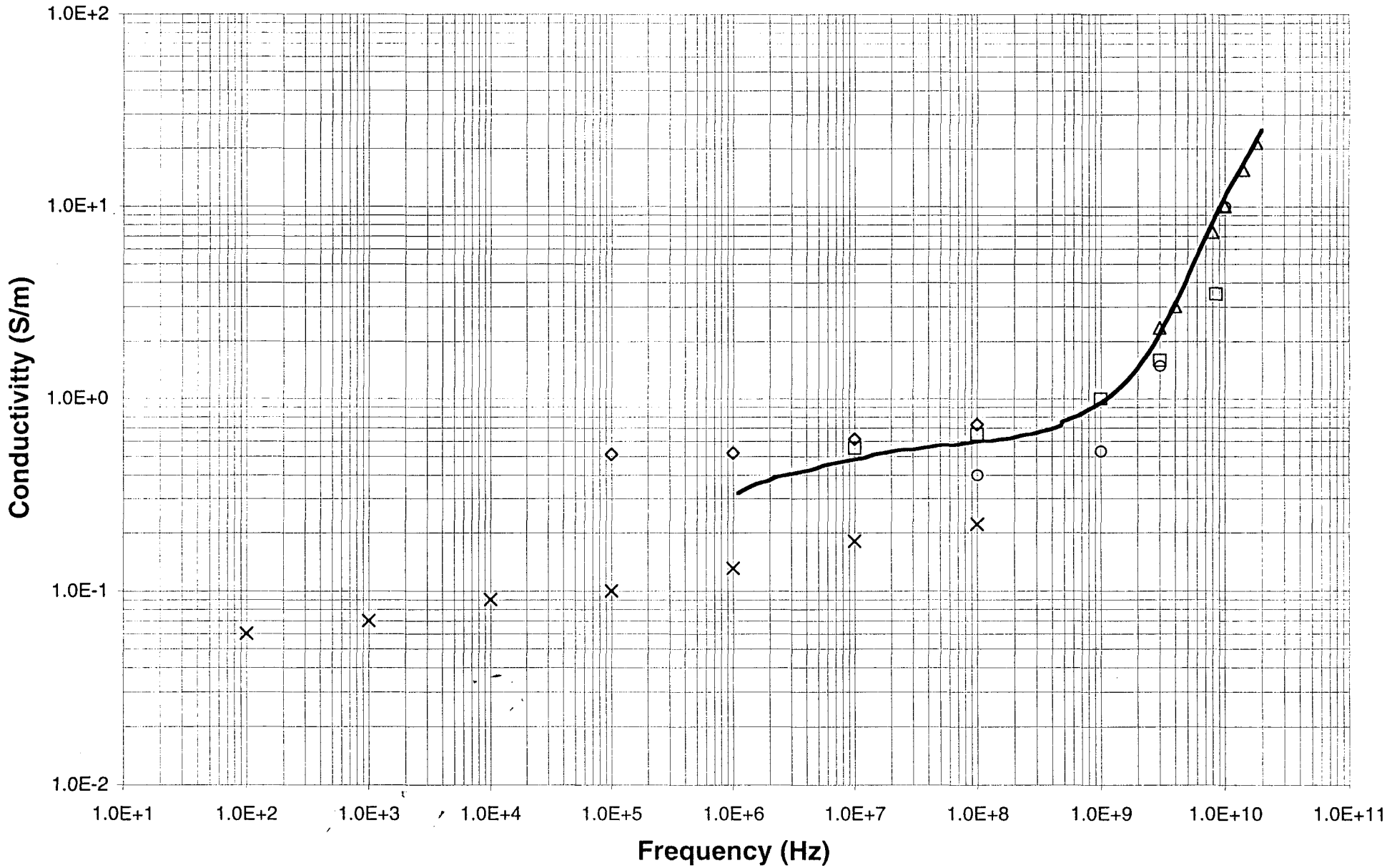
—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Lens Cortex
	ε'	ε''	σ (S/m)	
1.000E+7	2.050E+2	9.886E+2	5.500E-1	
1.000E+8	6.700E+1	1.168E+2	6.500E-1	Rabbit @ 37°C
1.000E+9	5.000E+1	1.798E+1	1.000E+0	Gabriel et al, 1983
3.000E+9	4.500E+1	9.587E+0	1.600E+0	
8.500E+9	4.000E+1	7.402E+0	3.500E+0	
3.000E+9	4.940E+1	1.396E+1	2.330E+0	
4.000E+9	4.510E+1	1.348E+1	3.000E+0	
8.000E+9	4.120E+1	1.640E+1	7.300E+0	Rabbit @ 37°C
1.000E+10	3.820E+1	1.798E+1	1.000E+1	Steel & Sheppard,1986
1.400E+10	3.440E+1	1.977E+1	1.540E+1	
1.800E+10	2.970E+1	2.127E+1	2.130E+1	
1.000E+5	7.200E+2	1.833E-1	5.100E-1	Bovine @ 32°C
1.000E+6	5.800E+2	9.347E+3	5.200E-1	Pauly & Schwan, 1964
1.000E+7	1.790E+2	1.096E+3	6.100E-1	(in Duck, 1990)
1.000E+8	6.600E+1	1.312E+2	7.300E-1	
1.000E+8	4.600E+1	7.190E+1	4.000E-1	
1.000E+9	3.200E+1	9.527E+0	5.300E-1	Bovine
3.000E+9	3.000E+1	8.988E+0	1.500E+0	Schwan, 1958
1.000E+10	2.800E+1	1.798E+1	1.000E+1	(in Stuchly & Stuchly, 1980)
1.000E+2	9.000E+5	1.079E+7	6.000E-2	
1.000E+3	1.500E+5	1.258E+6	7.000E-2	
1.000E+4	2.200E+4	1.618E+5	9.000E-2	Frog (whole Lens) 25 °C
1.000E+5	2.200E+3	1.798E+4	1.000E-1	Watanabe et al, 1991
1.000E+6	5.200E+2	2.337E+3	1.300E-1	
1.000E+7	8.200E+1	3.236E+2	1.800E-1	
1.000E+8	3.700E+1	3.955E+1	2.200E-1	

Lens Cortex


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Lens Cortex


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Lens Cortex

□ Rabbit @ 37°C (1E7-9E9Hz) Gabriel et al, 1983

◇ Bovine @ 32°C (1E5-1E8Hz) Pauly & Schwan, 1964

△ Rabbit @ 37°C (3E9-2E10Hz) Steel & Sheppard,1986

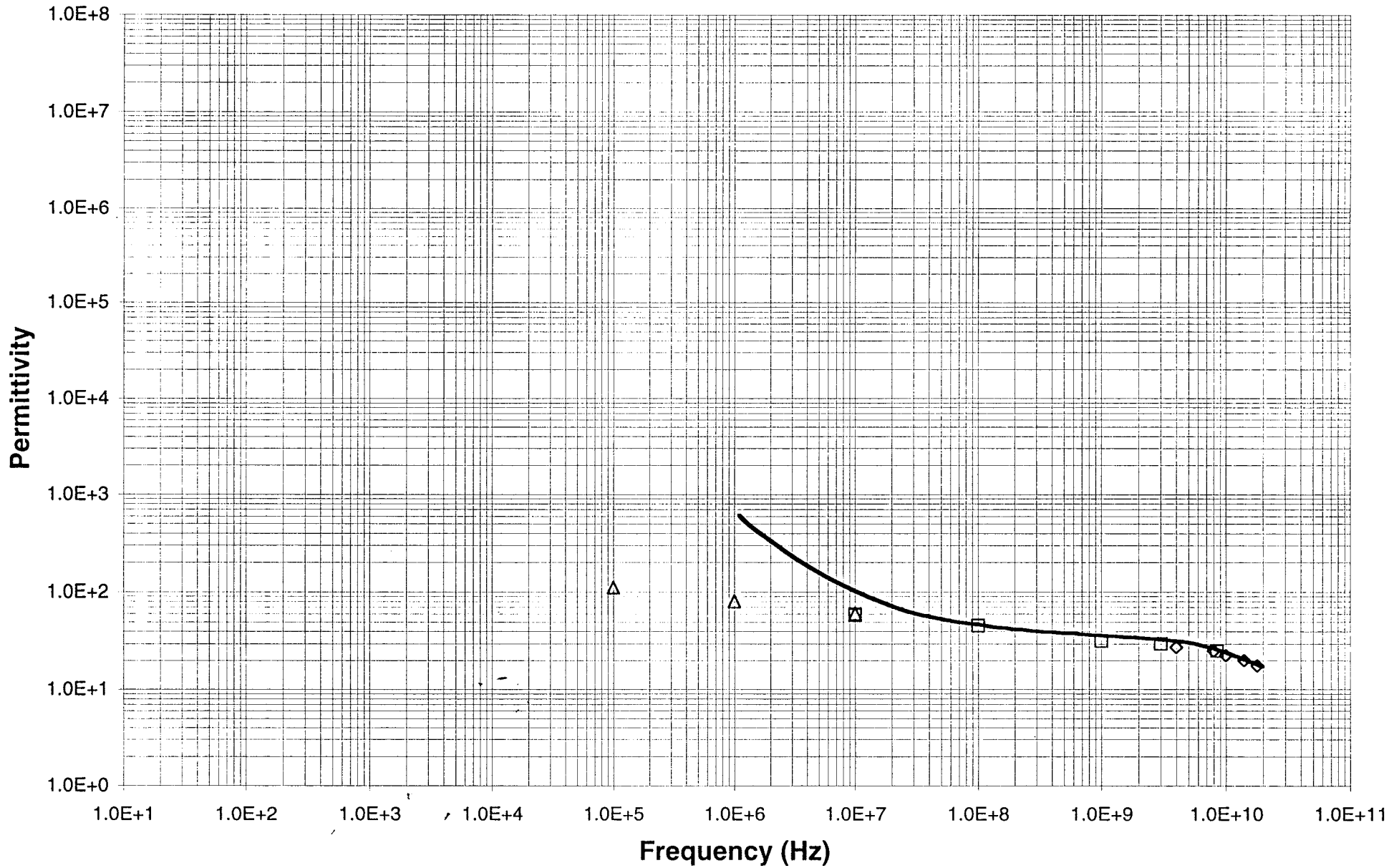
○ Bovine (Lens) (1E8-1E10Hz) Schwan, 1958

× Frog (whole Lens) 25 °C (1E2-1E8Hz) Watanabe et al, 1991

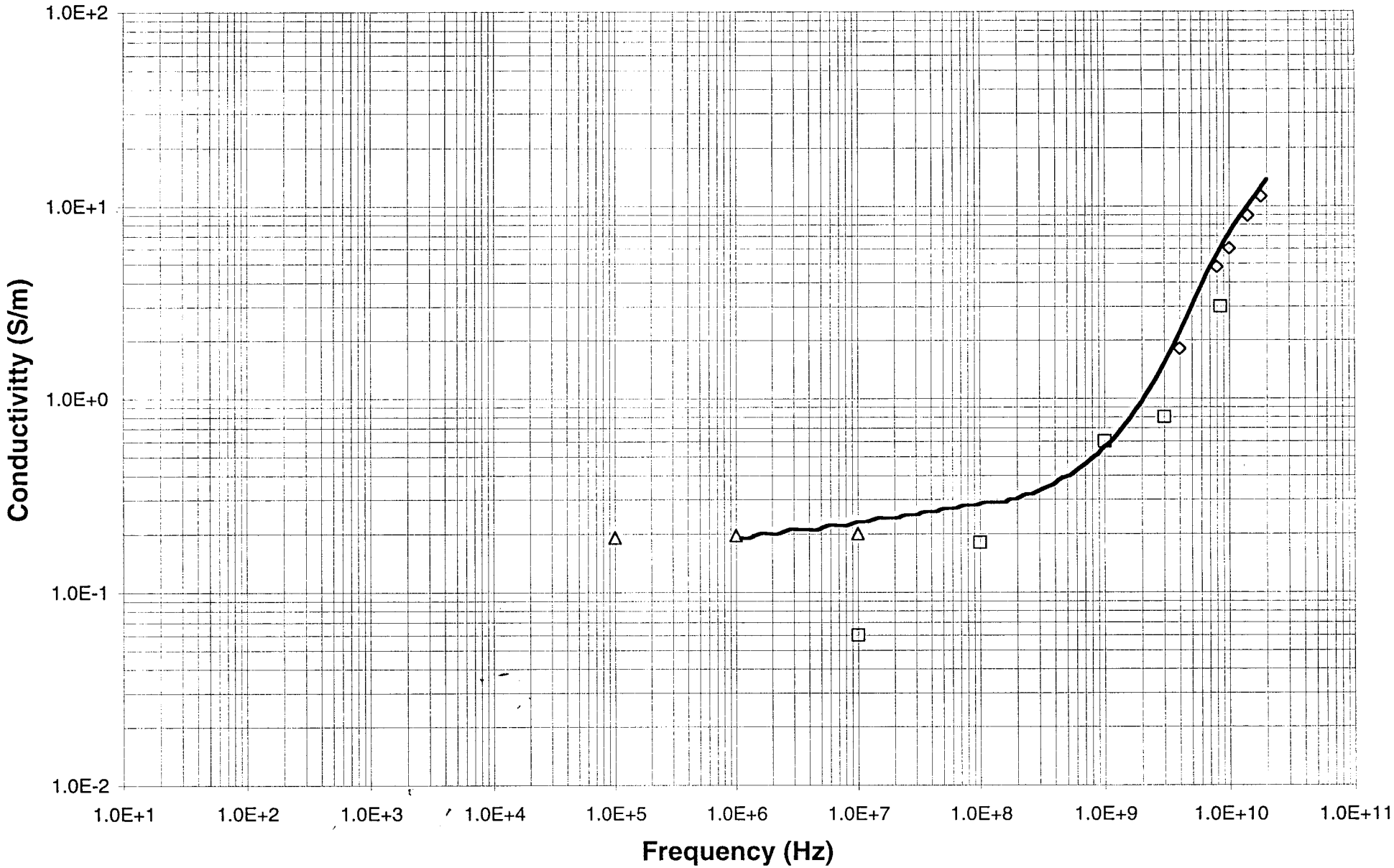
—— Ovine @ 37°C (1E6-2E10Hz) Current study measurement

Frequency (Hz)	Properties			Lens Nucleus
	ε'	ε''	σ (S/m)	
1.000E+7	5.800E+1	1.079E+2	6.000E-2	Rabbit @ 37°C Gabriel et al,1983
1.000E+8	4.600E+1	3.236E+1	1.800E-1	
1.000E+9	3.200E+1	1.079E+1	6.000E-1	
3.000E+9	3.000E+1	4.793E+0	8.000E-1	
8.500E+9	2.500E+1	6.344E+0	3.000E+0	
4.000E+9	2.750E+1	8.089E+0	1.800E+0	Rabbit @ 37°C Steel & Sheppard, 1986
8.000E+9	2.500E+1	1.079E+1	4.800E+0	
1.000E+10	2.260E+1	1.079E+1	6.000E+0	
1.400E+10	2.000E+1	1.143E+1	8.900E+0	
1.800E+10	1.760E+1	1.118E+1	1.120E+1	
1.000E+5	1.100E+2	6.831E-2	1.900E-1	Bovine @ 32°C Pauly & Schwan, 1964
1.000E+6	8.000E+1	3.505E+3	1.950E-1	
1.000E+7	6.000E+1	3.595E+2	2.000E-1	

Lens Nucleus



Lens Nucleus



Lens Nucleus

□ Rabbit @ 37°C (1E7-9E9Hz) Gabriel et al,1983

◇ Rabbit @ 37°C (4E9-2E10Hz) Steel & Sheppard, 1986

△ Bovine @ 32°C (1E5-1E7Hz) Pauly & Schwan, 1964

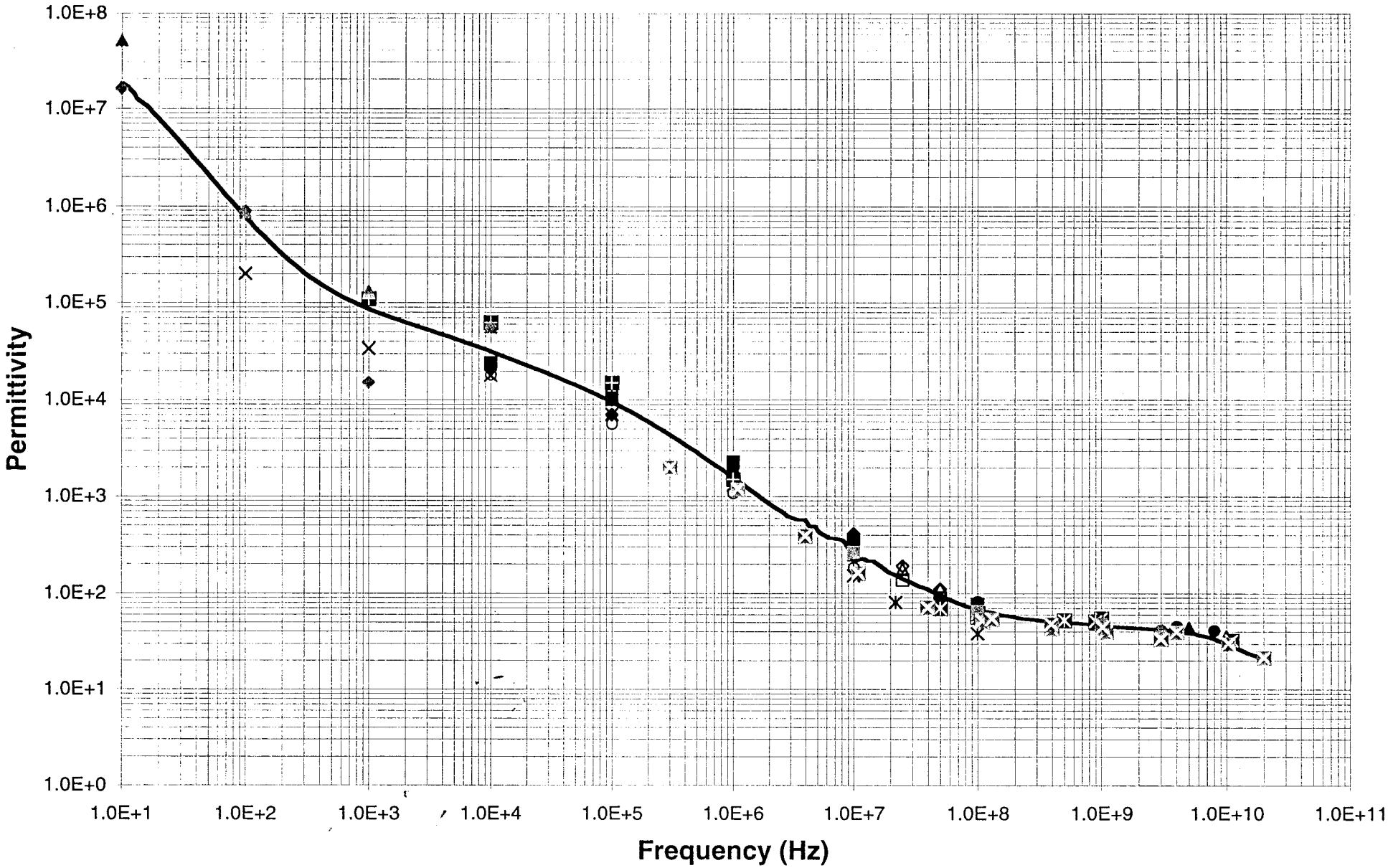
—— Ovine @ 37°C (1E6-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Liver
	ε'	ε''	σ (S/m)	
2.500E+7	1.361E+2	3.379E+2	4.700E-1	Porcine & Bovine @ 37°C Osswald, 1937 (in Stoy et al, 1982)
5.000E+7	8.893E+1	1.833E+2	5.100E-1	
1.000E+8	7.679E+1	1.007E+2	5.600E-1	
2.500E+7	1.361E+2	3.883E+2	5.400E-1	
5.000E+7	8.893E+1	2.085E+2	5.800E-1	
1.000E+8	7.679E+1	1.168E+2	6.500E-1	
1.000E+6	1.970E+3	2.696E+3	1.500E-1	Canine @ 37°C Stoy et al, 1982
1.000E+7	3.380E+2	4.853E+2	2.700E-1	
2.500E+7	1.900E+2	3.379E+2	4.700E-1	
5.000E+7	1.100E+2	2.049E+2	5.700E-1	
1.000E+8	7.700E+1	1.204E+2	6.700E-1	
1.000E+5	1.370E+4	2.876E+4	1.600E-1	Rabbit @ 37°C Stoy et al,1982
1.000E+6	1.970E+3	5.393E+3	3.000E-1	
1.000E+7	3.000E+2	8.269E+2	4.600E-1	
2.500E+7	1.750E+2	3.955E+2	5.500E-1	
5.000E+7	1.100E+2	2.265E+2	6.300E-1	
1.000E+8	7.900E+1	1.258E+2	7.000E-1	
1.000E+4	1.829E+4	1.977E+5	1.100E-1	Bovine @ 25°C Surowiec et al, 1985
1.000E+5	5.677E+3	2.337E+4	1.300E-1	
1.000E+6	1.078E+3	3.775E+3	2.100E-1	
1.000E+7	1.830E+2	5.752E+2	3.200E-1	
1.000E+8	5.300E+1	7.909E+1	4.400E-1	
1.000E+2	1.995E+5	1.887E+7	1.050E-1	Calf @ 25°C Rigaud et al, 1994
1.000E+3	3.350E+4	1.941E+6	1.080E-1	
1.000E+4	1.778E+4	1.995E+5	1.110E-1	
1.000E+5	7.079E+3	2.588E+4	1.440E-1	
1.000E+6	1.496E+3	4.134E+3	2.300E-1	
1.000E+7	2.990E+2	9.707E+2	5.400E-1	
1.000E+6	1.300E+3	5.393E+3	3.000E-1	Porcine (In vivo) @ 34-36°C Hahn et al, 1980
1.000E+7	1.500E+2	7.729E+2	4.300E-1	
2.200E+7	8.000E+1	3.922E+2	4.800E-1	
1.000E+8	3.800E+1	1.043E+2	5.800E-1	
1.000E+3	1.200E+5	6.291E+5	3.500E-2	Rabbit @ 25°C Smith & Foster, 1985
1.000E+4	5.800E+4	8.988E+4	5.000E-2	
1.000E+5	1.400E+4	2.337E+4	1.300E-1	
1.000E+6	1.600E+3	4.314E+3	2.400E-1	
1.000E+7	2.150E+2	7.010E+2	3.900E-1	
1.000E+8	7.400E+1	9.347E+1	5.200E-1	
1.000E+9	5.400E+1	1.528E+1	8.500E-1	
1.000E+4	2.400E+4	1.258E+5	7.000E-2	Feline (In vivo) @ 34.8°C ±0.8°C Surowiec et al,1986
1.000E+5	1.000E+4	1.977E+4	1.100E-1	
1.000E+6	2.300E+3	4.674E+3	2.600E-1	
1.000E+7	3.500E+2	8.628E+2	4.800E-1	
5.000E+7	8.000E+1	2.624E+2	7.300E-1	

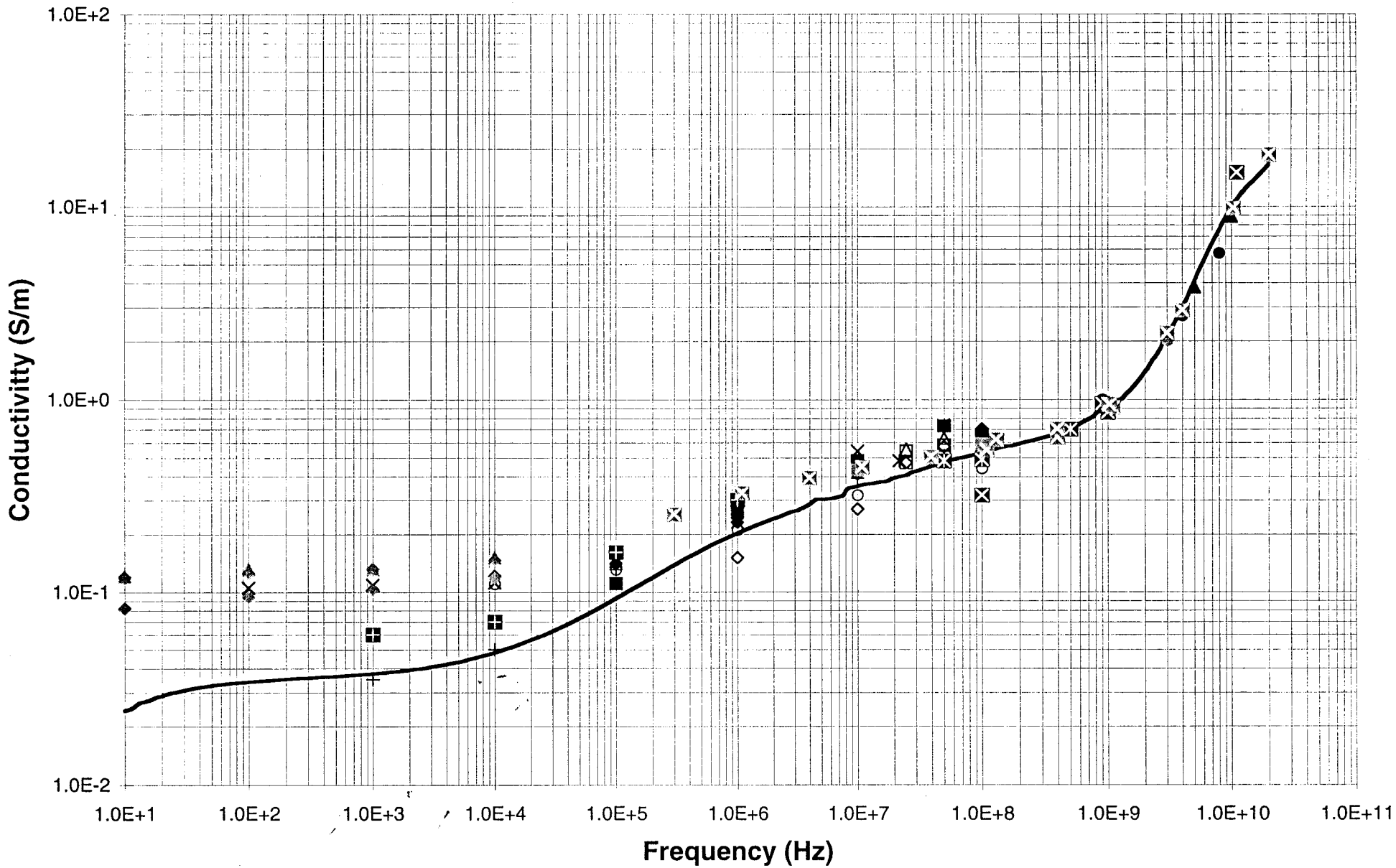
1.000E+4	2.101E+4	2.157E+5	1.200E-1	
1.000E+5	6.940E+3	2.517E+4	1.400E-1	Human @ 36.8°C +/-0.2°C
1.000E+6	1.940E+3	4.134E+3	2.300E-1	Suroweic et al, 1987
1.000E+7	4.090E+2	7.370E+2	4.100E-1	
1.000E+8	7.390E+1	1.258E+2	7.000E-1	
1.000E+8	7.130E+1	1.150E+2	6.400E-1	
9.000E+8	4.820E+1	1.857E+1	9.300E-1	Rat (In vivo) @ 32°C +/-1°C
5.000E+9	4.350E+1	1.366E+1	3.800E+0	Kraszewski et al, 1982
1.000E+10	3.540E+1	1.591E+1	8.850E+0	
1.000E+8	8.200E+1	1.132E+2	6.300E-1	
9.000E+8	5.100E+1	1.997E+1	1.000E+0	Feline (In vivo) @ 36°C
4.000E+9	4.550E+1	1.213E+1	2.700E+0	Kraszewski et al, 1982
8.000E+9	4.100E+1	1.281E+1	5.700E+0	
1.000E+8	5.683E+1	5.752E+1	3.200E-1	Canine @ 20°C +/-1°C
1.000E+9	5.462E+1	1.546E+1	8.600E-1	Xu et al, 1987
1.100E+10	3.213E+1	2.450E+1	1.499E+1	
5.000E+7	6.900E+1	1.726E+2	4.800E-1	
1.000E+8	6.200E+1	8.808E+1	4.900E-1	Human @ 23-25°C
5.000E+8	5.200E+1	2.517E+1	7.000E-1	Joines et al, 1994
9.000E+8	5.110E+1	1.897E+1	9.500E-1	
1.000E+3	1.100E+5	1.079E+6	6.000E-2	
1.000E+4	6.200E+4	1.258E+5	7.000E-2	Rabbit @ 25°C
1.000E+5	1.500E+4	2.876E+4	1.600E-1	Smith et al, 1986
1.000E+6	1.500E+3	5.393E+3	3.000E-1	
1.000E+7	2.620E+2	7.729E+2	4.300E-1	Feline (In vivo) @ 35°C +/-5°C
1.000E+8	6.500E+1	1.061E+2	5.900E-1	Stuchly et al, 1981
1.000E+9	4.800E+1	1.708E+1	9.500E-1	
1.000E+1	1.600E+7	1.474E+8	8.200E-2	
1.000E+2	8.750E+5	1.690E+7	9.400E-2	
1.000E+3	1.500E+4	1.851E+6	1.030E-1	Canine (In situ) @ BT
1.000E+4	5.500E+4	2.121E+5	1.180E-1	Schwan 1956b,57,63a
1.000E+1	1.600E+7	2.139E+8	1.190E-1	
1.000E+2	8.750E+5	2.247E+7	1.250E-1	
1.000E+3	1.500E+4	2.337E+6	1.300E-1	
1.000E+4	5.600E+4	2.624E+5	1.460E-1	
1.000E+1	5.000E+7	2.157E+8	1.200E-1	Canine (In situ)
1.000E+2	8.500E+5	2.337E+7	1.300E-1	Schwan & Kay, 1957
1.000E+3	1.300E+5	2.337E+6	1.300E-1	
1.000E+4	5.500E+4	2.696E+5	1.500E-1	
3.000E+9	4.200E+1	1.198E+1	2.000E+0	Bovine @ 37°C
				Brady et al, 1981
3.000E+5	1.993E+3	1.512E+4	2.524E-1	
1.089E+6	1.174E+3	5.378E+3	3.259E-1	
3.955E+6	3.859E+2	1.788E+3	3.934E-1	
1.089E+7	1.585E+2	7.360E+2	4.460E-1	
3.955E+7	7.118E+1	2.278E+2	5.011E-1	
1.089E+8	5.097E+1	8.995E+1	5.451E-1	

3.955E+8	4.309E+1	2.887E+1	6.351E-1	Human @ 37°C
1.089E+9	3.967E+1	1.507E+1	9.134E-1	Current study measurements
3.000E+9	3.346E+1	1.316E+1	2.197E+0	
1.300E+8	5.396E+1	8.547E+1	6.182E-1	
3.936E+8	4.711E+1	3.217E+1	7.044E-1	
1.025E+9	4.432E+1	1.644E+1	9.373E-1	
3.992E+9	3.931E+1	1.290E+1	2.865E+0	
1.039E+10	3.002E+1	1.684E+1	9.735E+0	
2.000E+10	2.123E+1	1.669E+1	1.857E+1	

Liver


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Liver


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Liver

□ Porcine & Bovine @ 37°C (3E7-1E8Hz) Osswald, 1937

◇ Canine @ 37°C (1E6-1E8Hz) Stoy et al, 1982

△ Rabbit @ 37°C1E5-1E8Hz) Stoy et al,1982

○ Bovine @ 25°C (1E4-1E8Hz) Surowiec et al, 1985

× Calf @ 25°C1E2-1E7Hz) Rigaud et al, 1994

✳ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

+ Rabbit @ 25°C (1E3-1E9Hz) Smith & Foster, 1985

■ Feline (In vivo) @ 34.8°C ±0.8°C (1E4-5E7Hz) Surowiec et al,1986a

◆ Human @ 36.8°C ±0.2°C (1E4-1E8Hz) Suroweic et al, 1987

▲ Rat (In vivo) @ 32°C ±1°C (1E8-1E10Hz) Kraszewski et al, 1982

● Feline (In vivo) @ 36°C (1E8-8E9Hz) Kraszewski et al, 1982

⊠ Canine @ 20°C ±1°C (1E8-1E10Hz) Xu et al, 1987

⊠ Human @ 23-25°C (5E7-9E8Hz) Joines et al, 1994

✚ Rabbit @ 25°C (1E3-1E6Hz) Smith et al, 1986

▩ Feline (In vivo) @ 35°C ±5°C (1E7-1E9Hz) Stuchly et al, 1981

◆ Canine (In situ) @ BT (1E1-1E4Hz) Schwan 1956,57,63

▲ Canine (In situ) (1E1-1E4Hz) Schwan & Kay, 1957

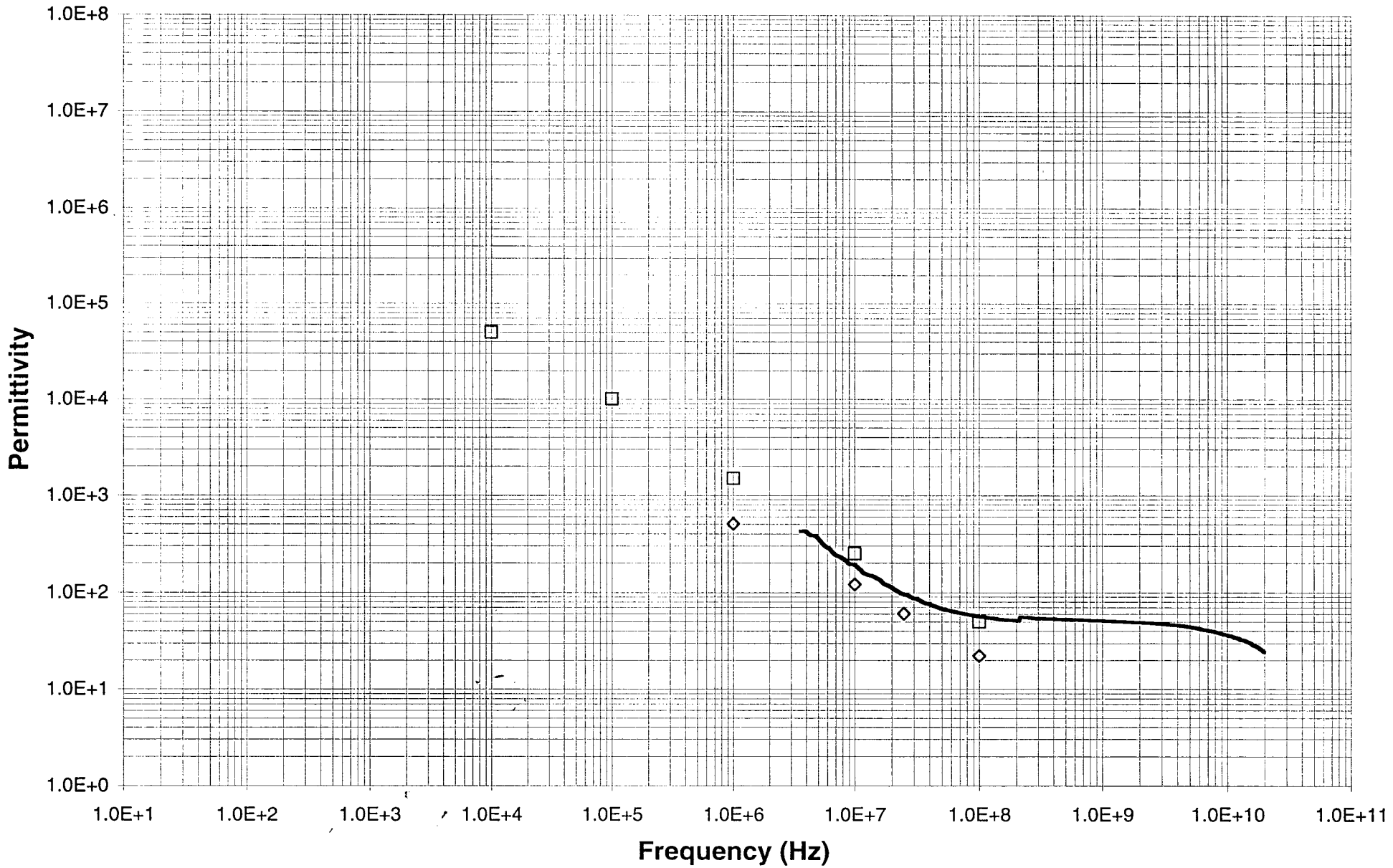
● Bovine @ 37°C (3E9Hz) Brady et al, 1981

⊠ Human @ 37°C (3E5-2E10Hz) Current study measurements

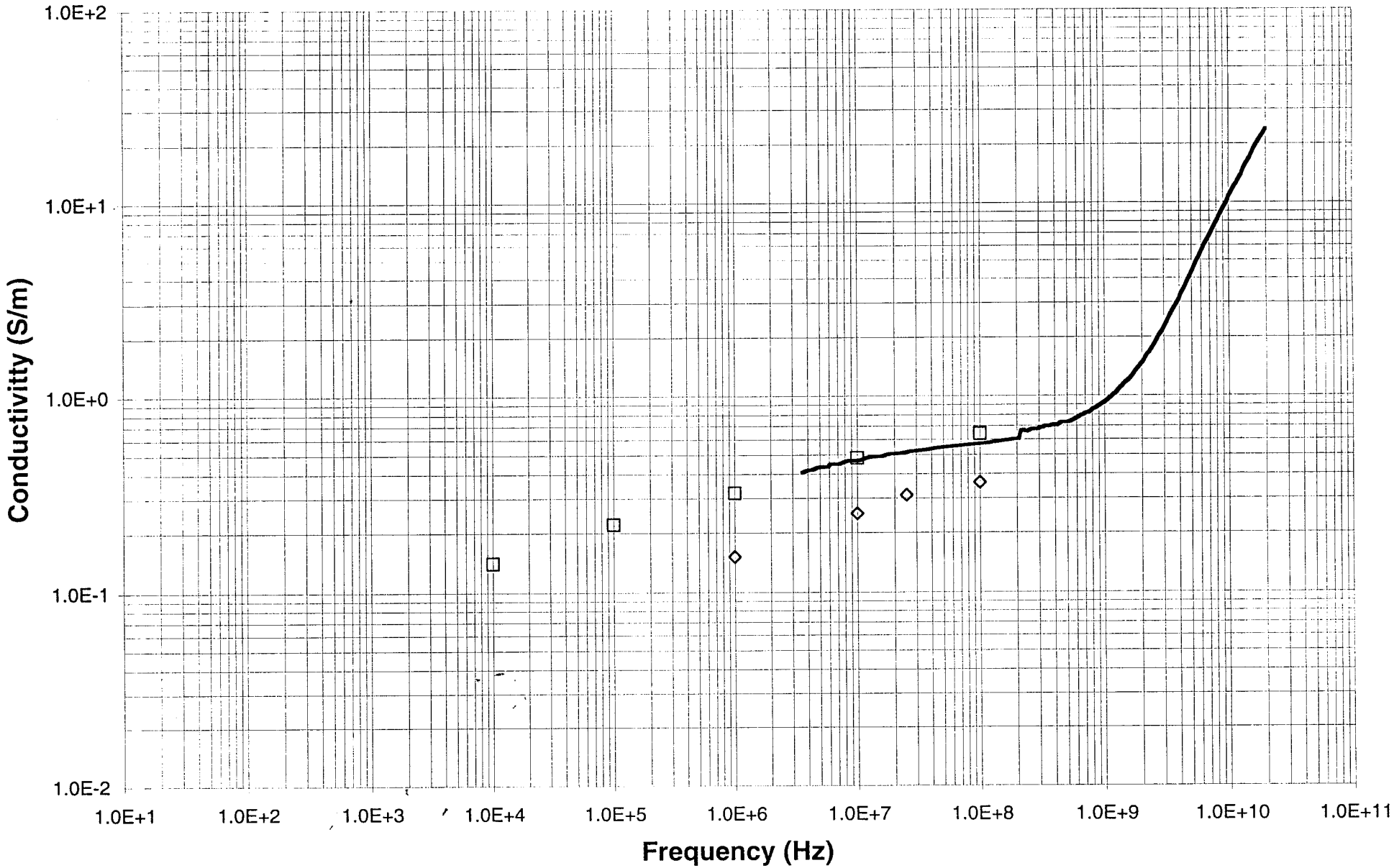
—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Lung Deflated
	ε'	ε''	σ (S/m)	
1.000E+6	5.000E+2	2.696E+3	1.500E-1	Porcine (In vivo) @ 34-36°C Hahn et al, 1980
1.000E+7	1.200E+2	4.494E+2	2.500E-1	
2.500E+7	6.000E+1	2.229E+2	3.100E-1	
1.000E+8	2.200E+1	6.471E+1	3.600E-1	
1.000E+4	5.000E+4	2.517E+5	1.400E-1	Feline (In vivo) @ 34 °C Suroweic et al, 1987
1.000E+5	1.000E+4	3.955E+4	2.200E-1	
1.000E+6	1.500E+3	5.752E+3	3.200E-1	
1.000E+7	2.500E+2	8.628E+2	4.800E-1	
1.000E+8	5.000E+1	1.150E+2	6.400E-1	

Lung Deflated



Lung Deflated



Lung Deflated

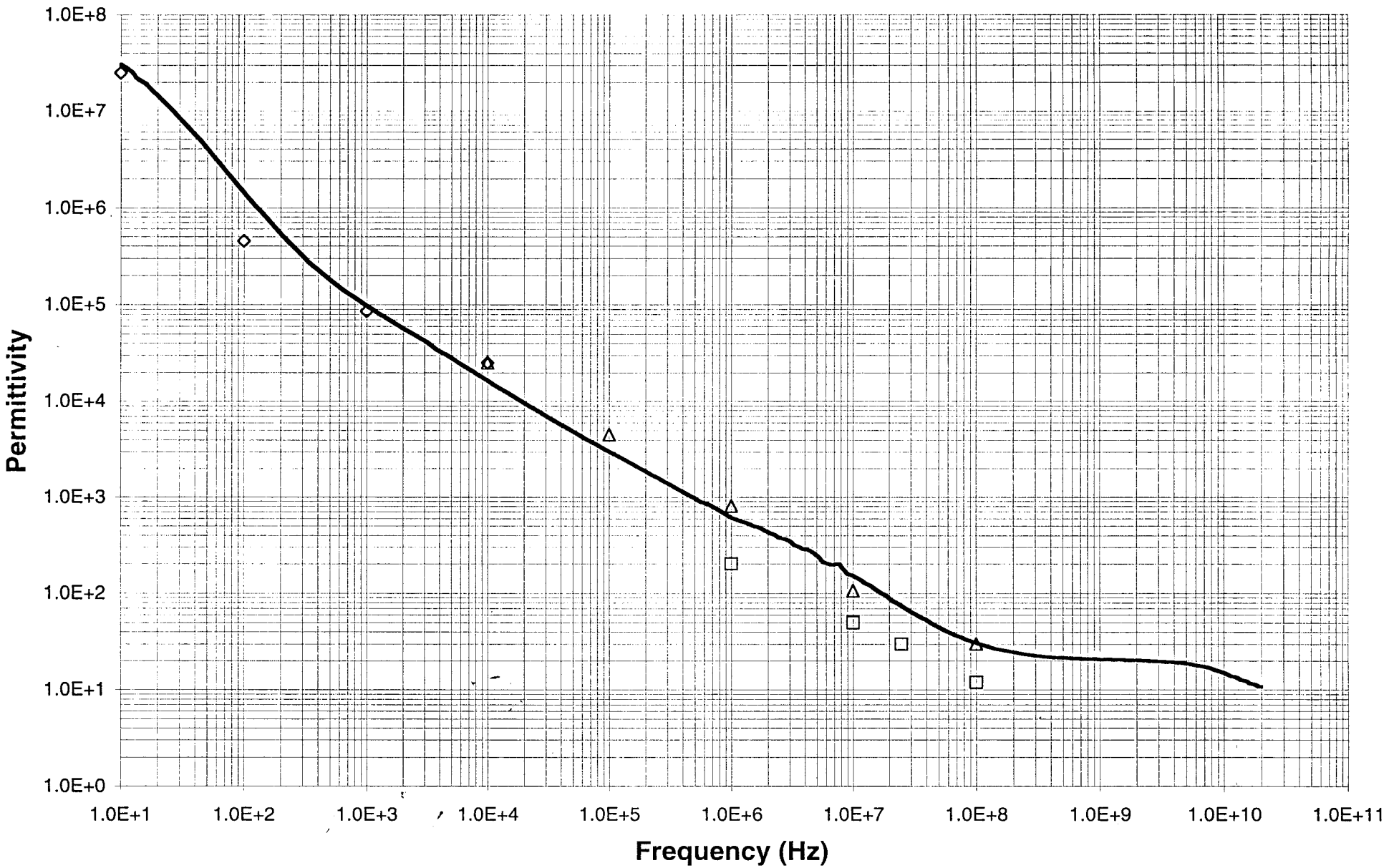
□ Feline (In vivo) @ 34°C (1E4-1E8Hz) Suroweic et al, 1987

◇ Porcine (In vivo) @ 34-36°C 1E6-1E8Hz) Hahn et al, 1980

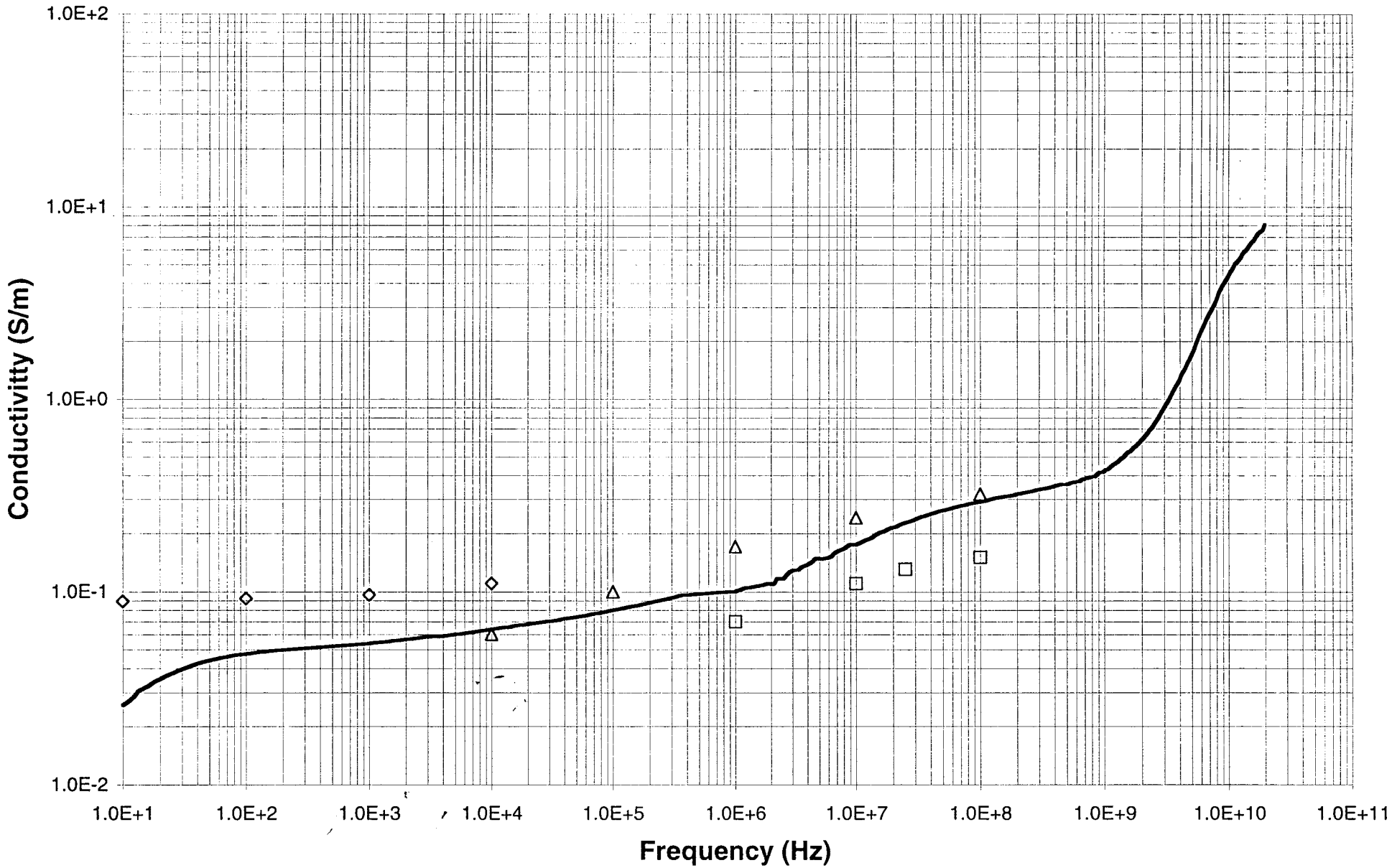
—— Human @ 37°C (3E6-2E10Hz) Current study measurement

Frequency (Hz)	Properties			Lung Inflated
	ε'	ε''	σ (S/m)	
1.000E+6	2.000E+2	1.258E+3	7.000E-2	Porcine (In vivo-inflated)
1.000E+7	5.000E+1	1.977E+2	1.100E-1	@ 34-36°C
2.500E+7	3.000E+1	9.347E+1	1.300E-1	Hahn et al, 1980
1.000E+8	1.200E+1	2.696E+1	1.500E-1	
1.000E+4	5.000E+4	2.517E+5	1.400E-1	
1.000E+5	1.000E+4	3.955E+4	2.200E-1	Feline (In vivo-deflated)
1.000E+6	1.500E+3	5.752E+3	3.200E-1	@ 34 °C
1.000E+7	2.500E+2	8.628E+2	4.800E-1	Suroweic et al, 1987
1.000E+8	5.000E+1	1.150E+2	6.400E-1	
1.000E+1	2.500E+7	1.600E+8	8.900E-2	
1.000E+2	4.500E+5	1.654E+7	9.200E-2	Canine (In situ-inflated)
1.000E+3	8.500E+4	1.726E+6	9.600E-2	Schwan & Kay, 1957
1.000E+4	2.500E+4	1.977E+5	1.100E-1	

Lung Inflated



Lung Inflated



Lung Inflated

□ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

◇ Canine (In situ) (1E1-1E4Hz) Schwan & Kay, 1957

△ Feline (In vivo) @ 34°C (1E4-1E8Hz) Suroweic et al,1987

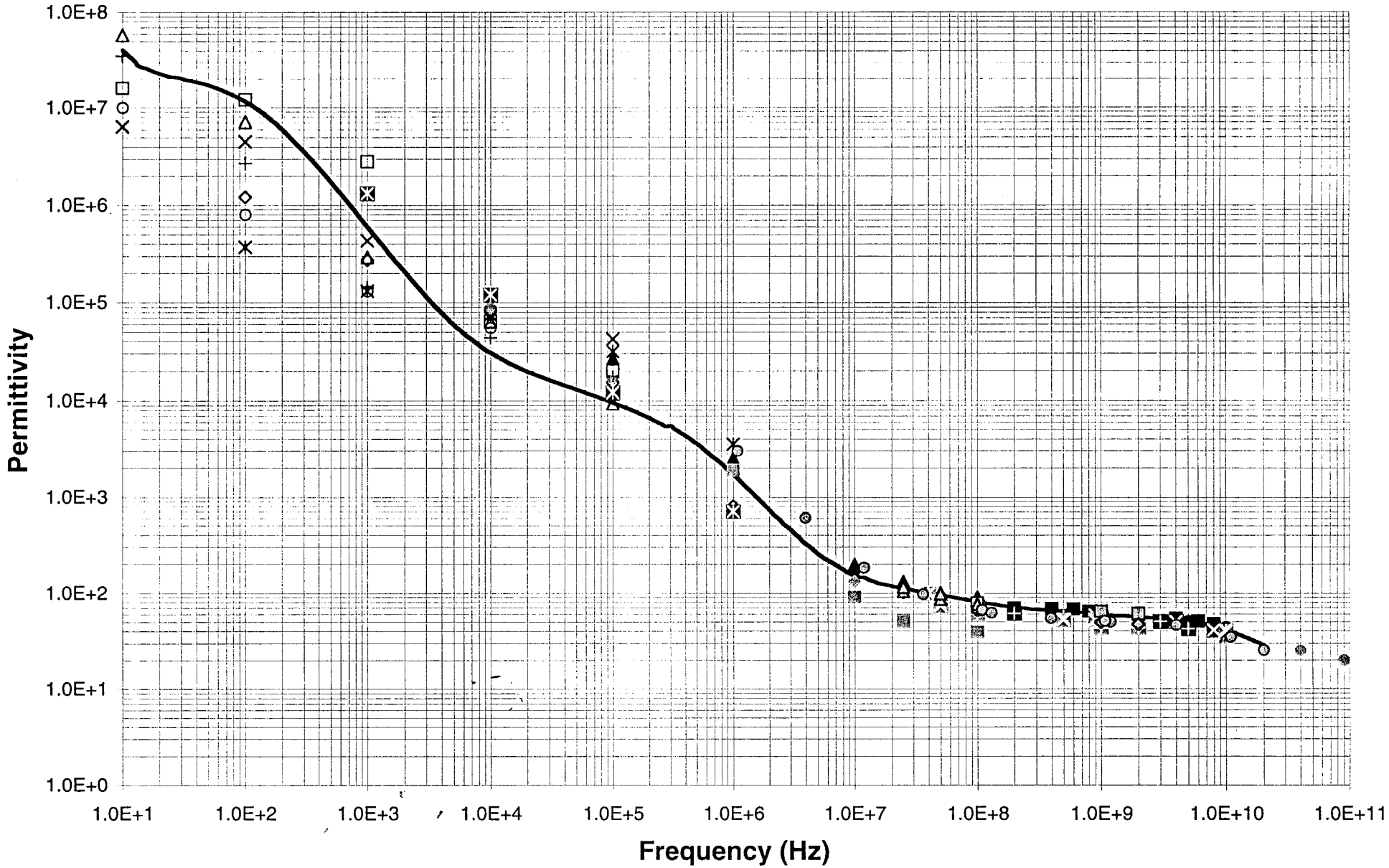
—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Muscle
	ε'	ε''	σ (S/m)	
1.000E+1	1.600E+7	5.123E+8	2.850E-1	Rat Parallel (In vivo) @ 37°C ±1°C Gielen et al, 1984
1.000E+2	1.200E+7	5.752E+7	3.200E-1	
1.000E+3	2.800E+6	9.077E+6	5.050E-1	
1.000E+4	6.400E+4	1.474E+6	8.200E-1	
1.000E+5	2.045E+4	1.977E+5	1.100E+0	
1.000E+2	1.200E+6	9.886E+7	5.500E-1	Canine Parallel @ 36-38°C Epstein & Foster, 1983
1.000E+3	2.700E+5	9.886E+6	5.500E-1	
1.000E+4	8.000E+4	1.043E+6	5.800E-1	
1.000E+5	1.100E+4	1.222E+5	6.800E-1	
1.000E+6	8.000E+2	1.438E+4	8.000E-1	
1.000E+1	5.800E+7	8.089E+7	4.500E-2	Bovine Parallel @ 20°C Bodakian & Hart, 1994
1.000E+2	7.100E+6	2.337E+7	1.300E-1	
1.000E+3	2.900E+5	2.696E+6	1.500E-1	
1.000E+4	6.300E+4	3.236E+5	1.800E-1	
1.000E+5	9.300E+3	4.674E+4	2.600E-1	
1.000E+1	1.000E+7	1.869E+8	1.040E-1	Canine (In situ) Schwan 1956,57,63
1.000E+2	8.000E+5	2.049E+7	1.140E-1	
1.000E+3	1.300E+5	2.211E+6	1.230E-1	
1.000E+4	5.500E+4	2.373E+5	1.320E-1	
1.000E+1	6.400E+6	3.325E+8	1.850E-1	Rat Transverse (In vivo) @ 37°C ±1°C Gielen et al,1984
1.000E+2	4.500E+6	3.775E+7	2.100E-1	
1.000E+3	4.300E+5	4.314E+6	2.400E-1	
1.000E+4	9.500E+4	5.393E+5	3.000E-1	
1.000E+5	4.200E+4	1.079E+5	6.000E-1	
1.000E+2	3.700E+5	1.438E+7	8.000E-2	Canine Transverse @ 36-38°C Epstein & Foster,1983
1.000E+3	1.300E+5	1.438E+6	8.000E-2	
1.000E+4	7.500E+4	2.157E+5	1.200E-1	
1.000E+5	3.100E+4	5.752E+4	3.200E-1	
1.000E+6	3.500E+3	1.043E+4	5.800E-1	
1.000E+1	3.500E+7	6.291E+7	3.500E-2	Bovine Transverse @ 20°C Bodakian & Hart,1994
1.000E+2	2.700E+6	1.258E+7	7.000E-2	
1.000E+3	1.400E+5	1.438E+6	8.000E-2	
1.000E+4	4.300E+4	1.708E+5	9.500E-2	
1.000E+5	1.700E+4	2.517E+4	1.400E-1	
2.000E+8	6.958E+1	8.269E+1	9.200E-1	Frog (In vivo) @ 22°C Schwartz & Mealing, 1985
4.000E+8	6.851E+1	4.359E+1	9.700E-1	
6.000E+8	6.807E+1	3.146E+1	1.050E+0	
8.000E+8	6.442E+1	2.629E+1	1.170E+0	
1.000E+9	6.365E+1	2.319E+1	1.290E+0	
2.000E+9	5.693E+1	1.564E+1	1.740E+0	
4.000E+9	5.396E+1	1.685E+1	3.750E+0	
6.000E+9	5.076E+1	2.061E+1	6.880E+0	
8.000E+9	4.721E+1	2.328E+1	1.036E+1	
1.000E+5	1.520E+4	7.370E+4	4.100E-1	

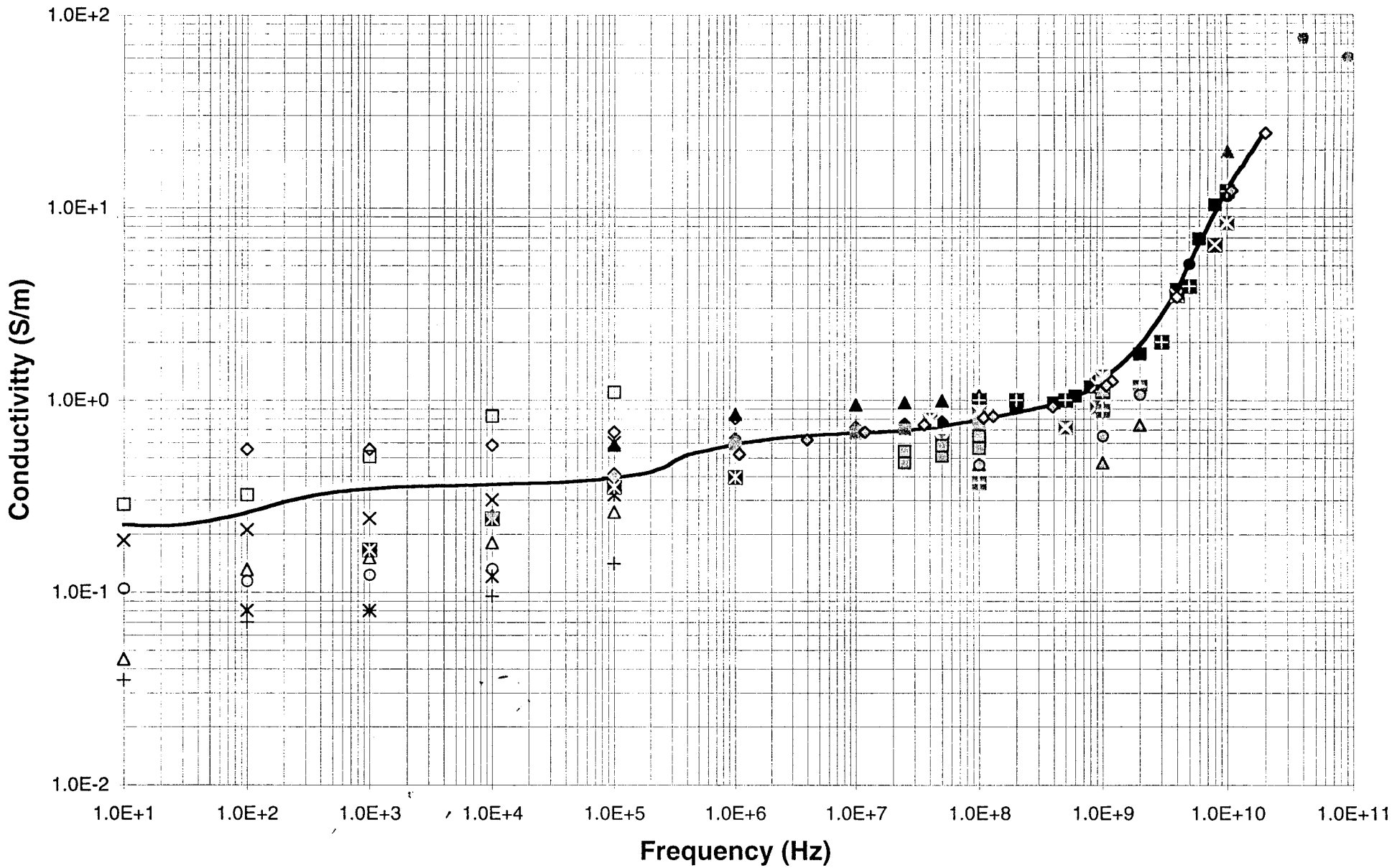
1.000E+6	2.080E+3	1.079E+4	6.000E-1	Canine @ 37°C Stoy et al,1982
1.000E+7	1.680E+2	1.294E+3	7.200E-1	
2.500E+7	1.010E+2	5.393E+2	7.500E-1	
5.000E+7	7.600E+1	2.768E+2	7.700E-1	
1.000E+8	6.700E+1	1.402E+2	7.800E-1	
1.000E+5	2.605E+4	1.043E+5	5.800E-1	Rat @ 37°C Stoy et al, 1982
1.000E+6	2.495E+3	1.510E+4	8.400E-1	
1.000E+7	1.960E+2	1.690E+3	9.400E-1	
2.500E+7	1.300E+2	6.974E+2	9.700E-1	
5.000E+7	1.010E+2	3.559E+2	9.900E-1	
1.000E+8	9.000E+1	1.887E+2	1.050E+0	
1.000E+8	7.260E+1	1.744E+2	9.700E-1	Rat (In vivo) @ 31°C ±1°C Kraszewski et al, 1982
9.000E+8	5.690E+1	2.536E+1	1.270E+0	
5.000E+9	5.100E+1	1.826E+1	5.080E+0	
1.000E+10	4.380E+1	2.062E+1	1.147E+1	
1.000E+8	6.800E+1	1.618E+2	9.000E-1	Feline (In vivo) @ 33°C ±1°C Kraszewski et al, 1982
9.000E+8	5.850E+1	2.397E+1	1.200E+0	
4.000E+9	5.000E+1	1.573E+1	3.500E+0	
8.000E+9	4.050E+1	1.438E+1	6.400E+0	
1.000E+3	1.300E+6	2.966E+6	1.650E-1	Frog (In vivo) Hart & Dunfee, 1993
1.000E+4	1.200E+5	4.314E+5	2.400E-1	
1.000E+5	1.200E+4	6.291E+4	3.500E-1	
1.000E+6	7.000E+2	7.100E+3	3.950E-1	
1.000E+8	7.200E+1	1.798E+2	1.000E+0	Canine @ 25°C Schwan & Foster, 1977
2.000E+8	6.100E+1	8.988E+1	1.000E+0	
5.000E+8	5.700E+1	3.595E+1	1.000E+0	
1.000E+9	5.500E+1	1.995E+1	1.110E+0	
3.000E+9	5.000E+1	1.198E+1	2.000E+0	
5.000E+9	4.200E+1	1.402E+1	3.900E+0	
1.000E+10	4.000E+1	2.193E+1	1.220E+1	
1.000E+6	1.900E+3	1.043E+4	5.800E-1	Porcine (In vivo) @ 34-36°C Hahn et al, 1980
1.000E+7	9.000E+1	1.204E+3	6.700E-1	
2.500E+7	5.000E+1	5.033E+2	7.000E-1	
1.000E+8	3.900E+1	1.384E+2	7.700E-1	
1.000E+4	8.800E+4	4.494E+5	2.500E-1	Feline (In vivo) @ 32.1°C ±2°C Suroweic et al, 1986
1.000E+5	1.580E+4	7.190E+4	4.000E-1	
1.000E+6	1.900E+3	1.132E+4	6.300E-1	
1.000E+7	1.300E+2	1.312E+3	7.300E-1	
1.000E+8	6.000E+1	1.492E+2	8.300E-1	
1.000E+8	7.274E+1	1.276E+2	7.100E-1	Canine @ 20°C ±1°C Xu et al, 1987
1.000E+9	5.197E+1	2.031E+1	1.130E+0	
1.000E+10	3.523E+1	3.188E+2	1.951E+1	
4.000E+10	2.500E+1	3.370E+1	7.500E+1	Rat (In vivo) @ 37°C Edrich & Hardee, 1976
9.000E+10	2.000E+1	1.198E+1	6.000E+1	
5.000E+7	7.350E+1	2.193E+2	6.100E-1	Human @ 23-25°C Joines et al,1994
1.000E+8	6.300E+1	1.114E+2	6.200E-1	
5.000E+8	5.240E+1	2.588E+1	7.200E-1	

9.000E+8	5.200E+1	1.837E+1	9.200E-1	
4.000E+7	9.800E+1	3.550E+2	7.900E-1	Human Schwan, 1955
1.000E+8	6.900E+1	1.564E+2	8.700E-1	
1.000E+9	5.000E+1	2.391E+1	1.330E+0	
1.000E+10	4.000E+1	1.497E+1	8.330E+0	
1.000E+8	6.000E+1	6.651E+1	3.700E-1	Rat @ 30°C Joines et al, 1980
1.000E+9	4.300E+1	1.582E+1	8.800E-1	
2.000E+9	4.300E+1	1.052E+1	1.170E+0	
1.000E+8	7.800E+1	8.269E+1	4.600E-1	Rat (In vivo) @ 31°C Burdette et al, 1980
1.000E+9	6.400E+1	1.168E+1	6.500E-1	
2.000E+9	6.100E+1	9.617E+0	1.070E+0	
1.000E+8	6.600E+1	8.269E+1	4.600E-1	Canine (In vivo) @ 34°C Burdette et al, 1980
1.000E+9	4.900E+1	8.448E+0	4.700E-1	
2.000E+9	4.700E+1	6.651E+0	7.400E-1	
1.090E+6	3.002E+3	8.560E+3	5.200E-1	Ovine @ 37°C Gabriel et al, 1994
3.950E+6	6.060E+2	2.816E+3	6.200E-1	
1.190E+7	1.839E+2	1.027E+3	6.800E-1	
3.610E+7	9.700E+1	3.707E+2	7.400E-1	
1.090E+8	6.660E+1	1.336E+2	8.100E-1	
3.950E+8	5.430E+1	4.260E+1	9.400E-1	
1.190E+9	4.970E+1	1.880E+1	1.250E+0	
1.300E+8	6.217E+1	1.134E+2	8.200E-1	
3.940E+8	5.479E+1	4.202E+1	9.200E-1	
1.080E+9	5.113E+1	1.990E+1	1.190E+0	
3.990E+9	4.616E+1	1.539E+1	3.420E+0	
1.090E+10	3.500E+1	2.023E+1	1.230E+1	
2.000E+10	2.533E+1	2.171E+1	2.415E+1	
2.500E+7	1.030E+2	3.379E+2	4.700E-1	Porcine & Bovine @ 37°C Osswald, 1937
5.000E+7	8.500E+1	1.833E+2	5.100E-1	
1.000E+8	7.100E+1	1.007E+2	5.600E-1	
2.500E+7	1.150E+2	3.883E+2	5.400E-1	
5.000E+7	9.700E+1	2.085E+2	5.800E-1	
1.000E+8	7.600E+1	1.168E+2	6.500E-1	

Muscle


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Muscle


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Muscle

□ Rat Parallel (In vivo) @ 37°C ±1°C (1E1-1E5Hz) Gielen et al, 1984

◇ Canine Parallel @ 36-38°C (1E2-1E6Hz) Epstein & Foster, 1983

△ Bovine Parallel @ 20°C (1E1-1E5Hz) Bodakian & Hart, 1994

○ Canine (In situ) (1E1-1E4Hz) Schwan 1956,57,63 (in Durney et al, 1986)

× Rat Transverse (In vivo) @ 37°C ±1°C (1E1-1E5Hz) Gielen et al,1984

✳ Canine Transverse @ 36-38°C (1E2-1E6Hz) Epstein & Foster,1983

+ Bovine Transverse @ 20°C (1E1-1E5Hz) Bodakian & Hart,1994

■ Frog (In vivo) @ 22°C (2E8-8E9Hz) Schwartz & Mealing, 1985

◆ Canine @ 37°C (1E5-1E8Hz) Stoy et al,1982

▲ Rat @ 37°C (1E5-1E8Hz) Stoy et al, 1982

● Rat (In vivo) @ 31°C ±1°C (1E8-1E10Hz) Kraszewski et al, 1982

⊠ Feline (In vivo) @ 33°C ±1°C (1E8-8E9Hz) Kraszewski et al, 1982

⊠ Frog (In vivo) (1E3-1E6Hz) Hart & Dunfee, 1993

✚ Canine @ 25°C (1E8-1E10Hz) Schwan & Foster, 1977

▣ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

◆ Feline (In vivo) @ 32.1°C ±2°C (1E4-1E8Hz) Suroweic et al, 1986

▲ Canine @ 20°C ±1°C (1E8-1E10Hz) Xu et al, 1987

● Rat (In vivo) @ 37°C (4E10-9E10Hz) Edrich & Hardee, 1976

⊠ Human @ 23-25°C (5E7-9E8Hz) Joines et al,1994

⊠ Human (4E7-1E10Hz) Schwan, 1955

✚ Rat @ 30°C (1E8-2E9Hz) Joines et al, 1980

▣ Porcine & Bovine @ 37°C (2E7-1E8Hz) Osswald, 1937

◆ Ovine @ 37°C (1E6-2E10Hz) Gabriel et al, 1994

△ Canine (In vivo) @ 34°C (1E8-2E9Hz) Burdette et al, 1980

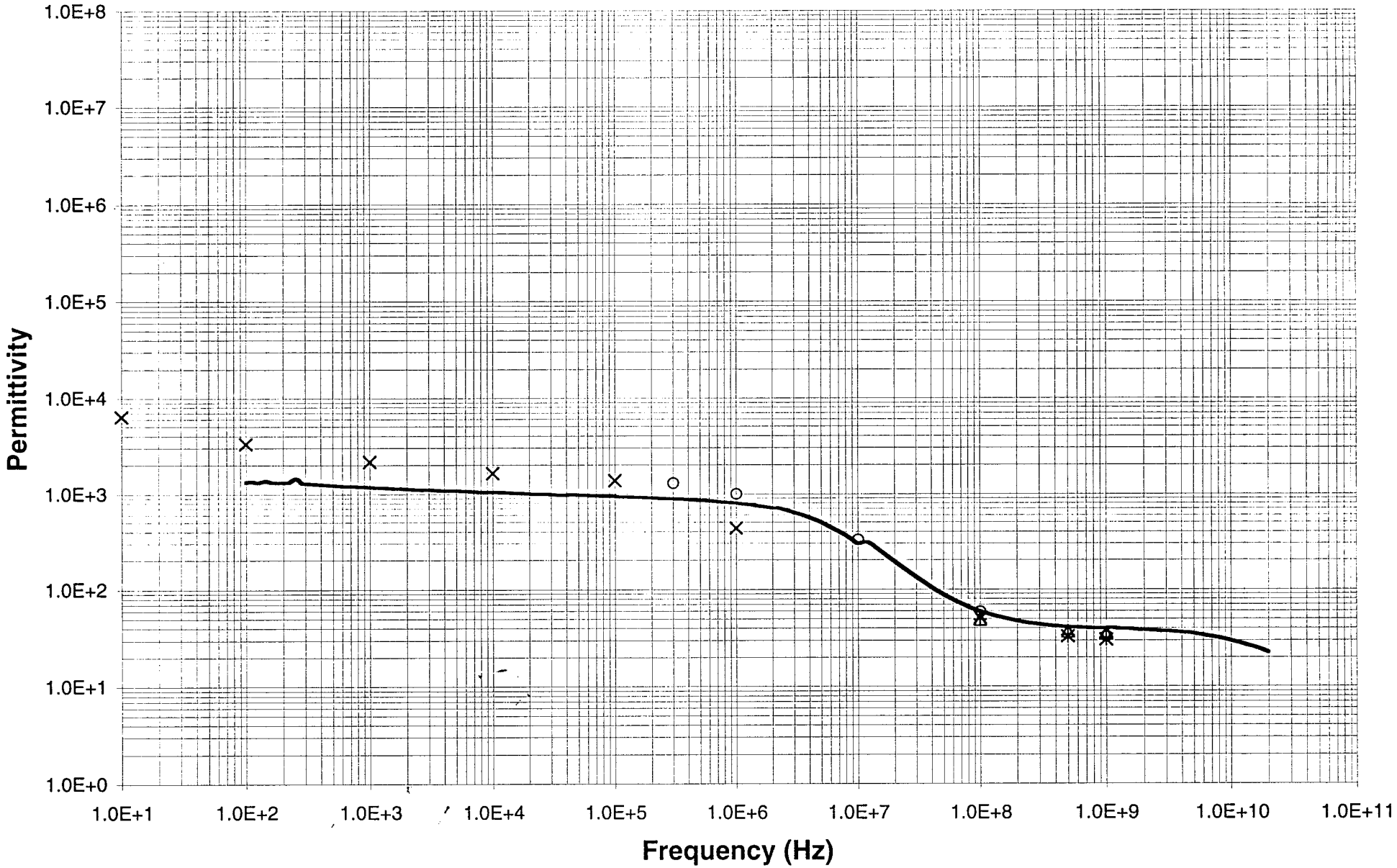
◎ Rat (In vivo) @ 31°C (1E8-2E9Hz) Burdette et al, 1980

—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

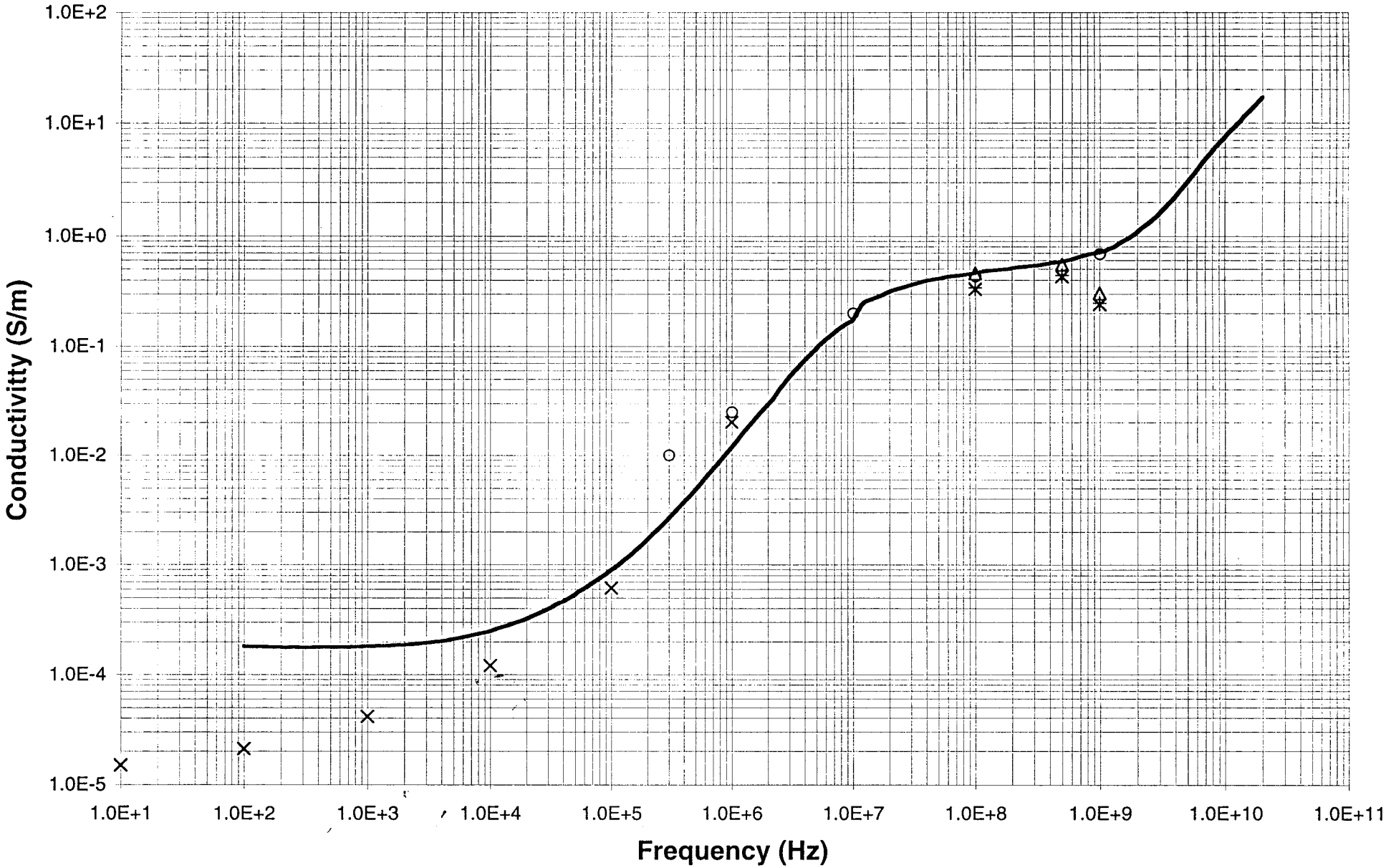
Frequency (Hz)	Properties			Pancreas
	ε'	ε''	σ (S/m)	
1.000E+5	1.000E+4	5.393E+4	3.000E-1	
3.000E+5	5.800E+3	2.097E+4	3.500E-1	Canine @ 37°C
1.000E+6	2.300E+3	7.729E+3	4.300E-1	Stoy et al, 1982
1.000E+7	3.200E+2	1.079E+3	6.000E-1	
1.000E+8	8.500E+1	1.528E+2	8.500E-1	

Frequency (Hz)	Properties			Skin (Dry)
	ε'	ε''	σ (S/m)	
1.000E+8	4.880E+1	8.170E+1	4.540E-1	Human (In vivo-temple)
5.000E+8	3.700E+1	1.970E+1	5.480E-1	Grant et al, 1988
1.000E+9	3.470E+1	1.090E+1	3.030E-1	
3.000E+5	1.300E+3	5.992E+2	1.000E-2	
1.000E+6	1.000E+3	4.494E+2	2.500E-2	Human (In vivo)
1.000E+7	3.280E+2	3.595E+2	2.000E-1	Tamura et al, 1994
1.000E+8	5.900E+1	7.729E+1	4.300E-1	
1.000E+9	3.300E+1	1.240E+1	6.900E-1	
1.000E+1	6.350E+3	2.696E+4	1.500E-5	
1.000E+2	3.275E+3	3.775E+3	2.100E-5	Human (stratum corneum-
1.000E+3	2.150E+3	7.370E+2	4.100E-5	associated with dry values)
1.000E+4	1.630E+3	2.157E+2	1.200E-4	Yamamoto & Yamamoto, 1976
1.000E+5	1.370E+3	1.096E+2	6.100E-4	
1.000E+6	4.320E+2	3.595E+2	2.000E-2	
1.000E+8	5.090E+1	5.910E+1	3.290E-1	Human (In vivo-neck)
5.000E+8	3.270E+1	1.530E+1	4.260E-1	Grant et al, 1988
1.000E+9	3.020E+1	8.600E+0	2.390E-1	
1.000E+8	4.860E+1	6.090E+1	3.390E-1	Human (In vivo-abdomen)
5.000E+8	3.390E+1	1.570E+1	4.370E-1	Grant et al, 1988
1.000E+9	3.170E+1	8.900E+0	2.480E-1	

Skin (Dry)


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Skin (Dry)


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E-4
1.0E-5
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Skin (Dry)

△ Human (In vivo-temple) (1E8-1E9Hz) Grant et al, 1988

o Human (In vivo) (3E5-1E9Hz) Tamura et al, 1994

× Human (stratum corneum) (1E1-1E6Hz) Yamamoto & Yamamoto, 1976

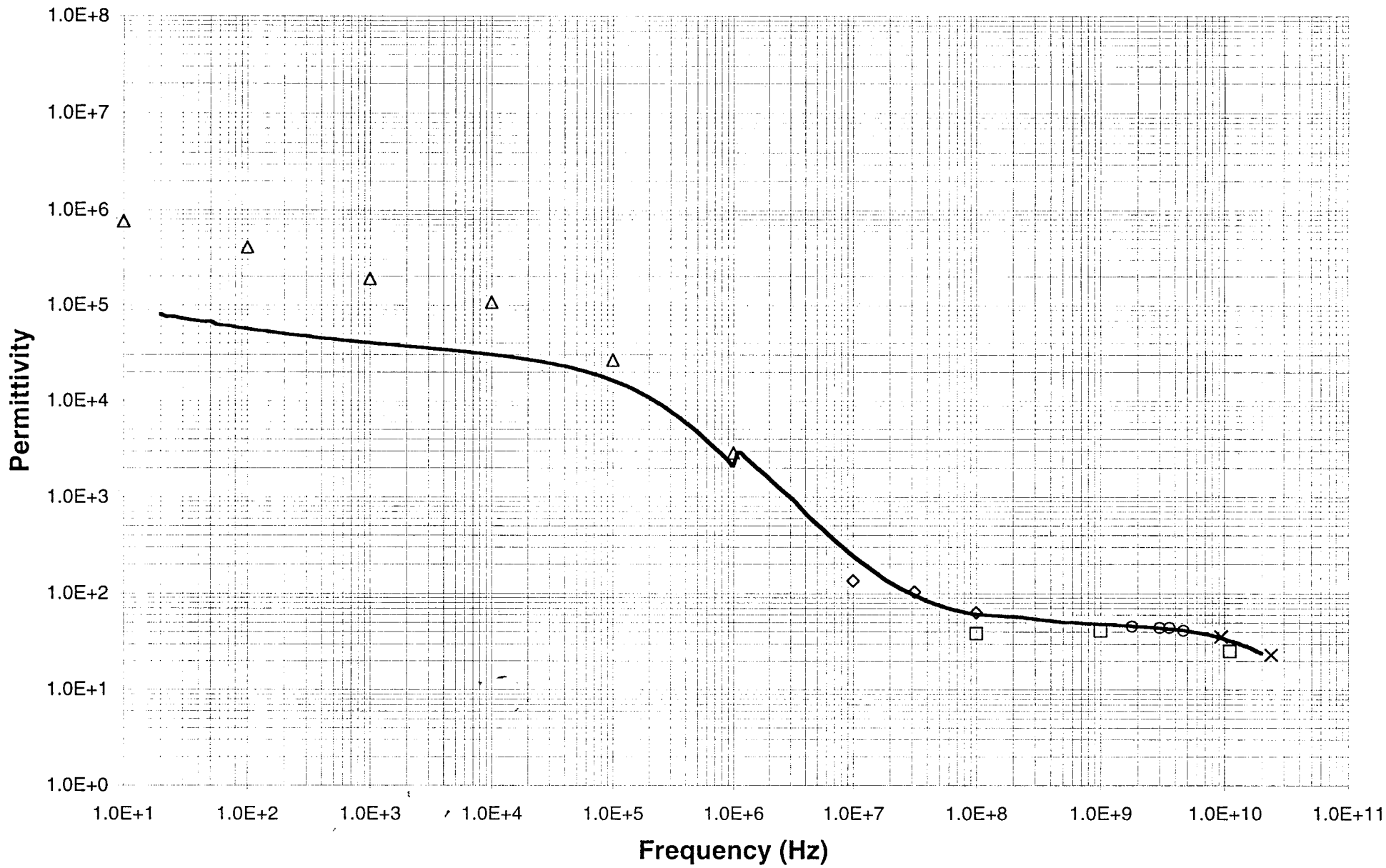
⁎ Human (In vivo-neck) (1E8-1E9Hz) Grant et al, 1988

\+ Human (In vivo-abdomen) (1E8-1E9Hz) Grant et al, 1988

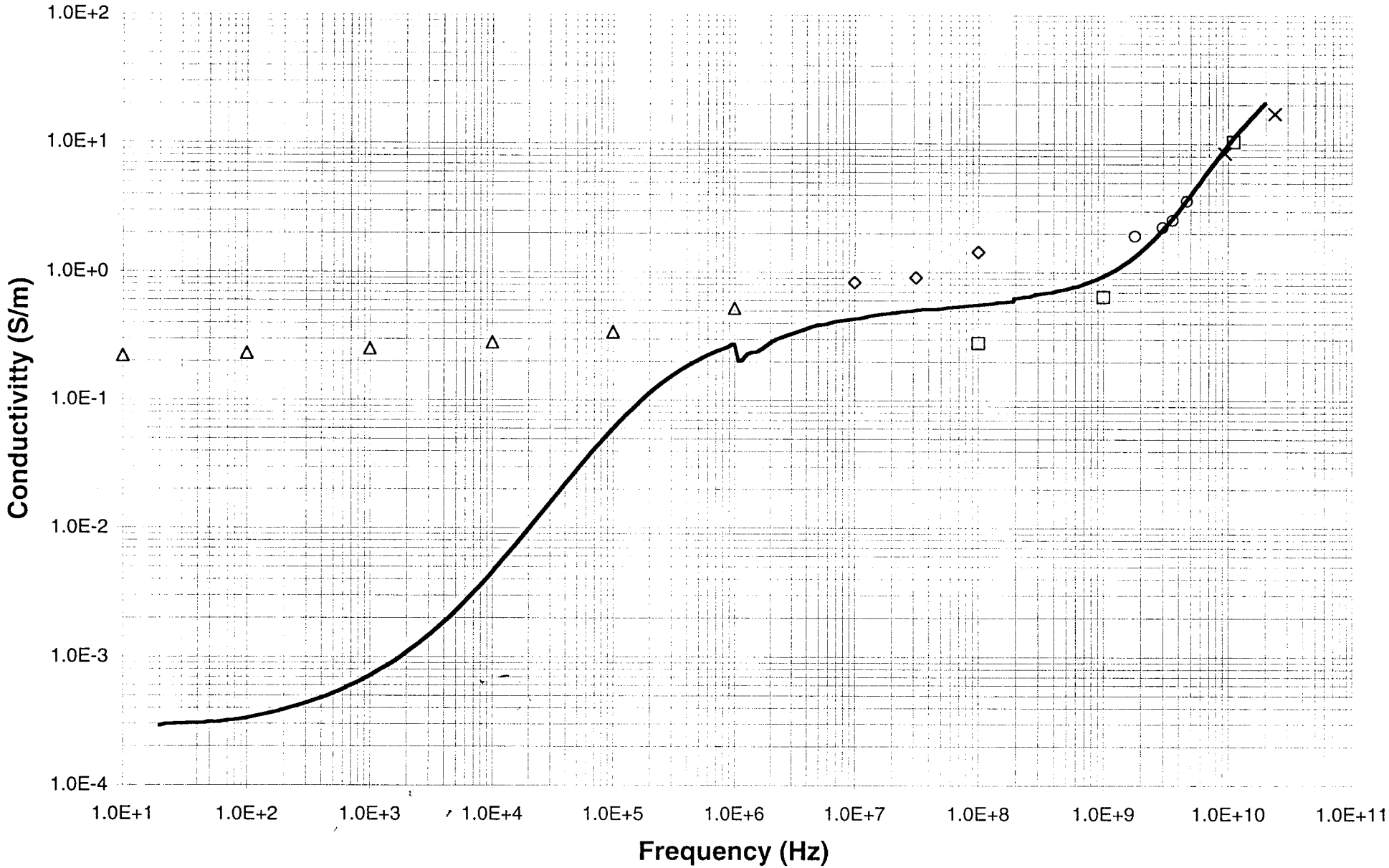
—— Human (In vivo-forearm) 1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Skin (Wet)
	ε'	ε''	σ (S/m)	
1.000E+8	3.830E+1	5.033E+1	2.800E-1	Canine @20°C+/-1°C
1.000E+9	4.105E+1	1.150E+1	6.400E-1	Xu et al, 1987
1.100E+10	2.519E+1	1.686E+1	1.032E+1	
1.000E+7	1.330E+2	1.492E+3	8.300E-1	Human (excised) @ 20°C
3.160E+7	1.030E+2	5.176E+2	9.100E-1	Bhattacherjee et al, 1995
1.000E+8	6.300E+1	2.588E+2	1.440E+0	
1.000E+1	7.565E+5	3.955E+8	2.200E-1	
1.000E+2	4.037E+5	4.134E+7	2.300E-1	Human (granular associated
1.000E+3	1.874E+5	4.494E+6	2.500E-1	with wet values)
1.000E+4	1.072E+5	5.033E+5	2.800E-1	Yamamoto & Yamamoto, 1976
1.000E+5	2.656E+4	6.112E+4	3.400E-1	
1.000E+6	2.850E+3	9.347E+3	5.200E-1	
1.780E+9	4.560E+1	1.945E+1	1.926E+0	
2.980E+9	4.450E+1	1.354E+1	2.244E+0	Human (excised) @ 37°C
3.580E+9	4.425E+1	1.284E+1	2.557E+0	Cook, 1952
4.630E+9	4.153E+1	1.400E+1	3.606E+0	
9.430E+9	3.550E+1	1.600E+1	8.394E+0	Human (excised) @ 37°C
2.362E+10	2.300E+1	1.300E+1	1.708E+1	England, 1950

Skin (Wet)


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Skin (Wet)


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E-4
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Skin (Wet)

□ Canine @20°C (1E8-1E10Hz) Xu et al, 1987

◇ Human (excised) @ 20°C (1E7-1E8Hz) Bhattacherjee et al, 1995

△ Human (granular associated with wet values) (1E1-1E6Hz) Yamamoto & Yamamoto, 1976

○ Human (excised) @ 37°C (2E9-5E9Hz) Cook, 1952

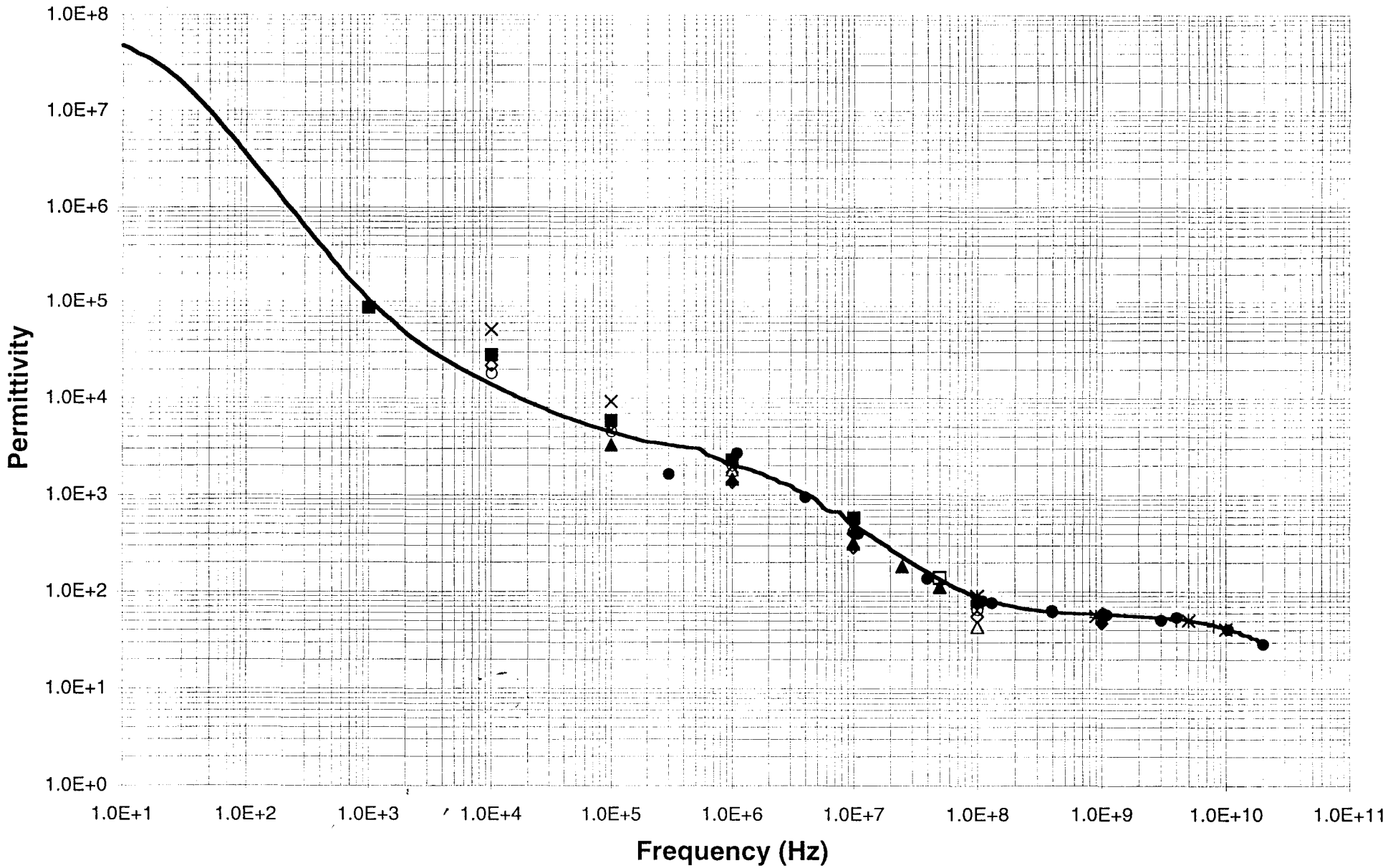
× Human (excised) @ 37°C (9E9-2E10Hz) England, 1950

—— Human (In vivo-forearm) (1E1-2E10Hz) Current study measurements

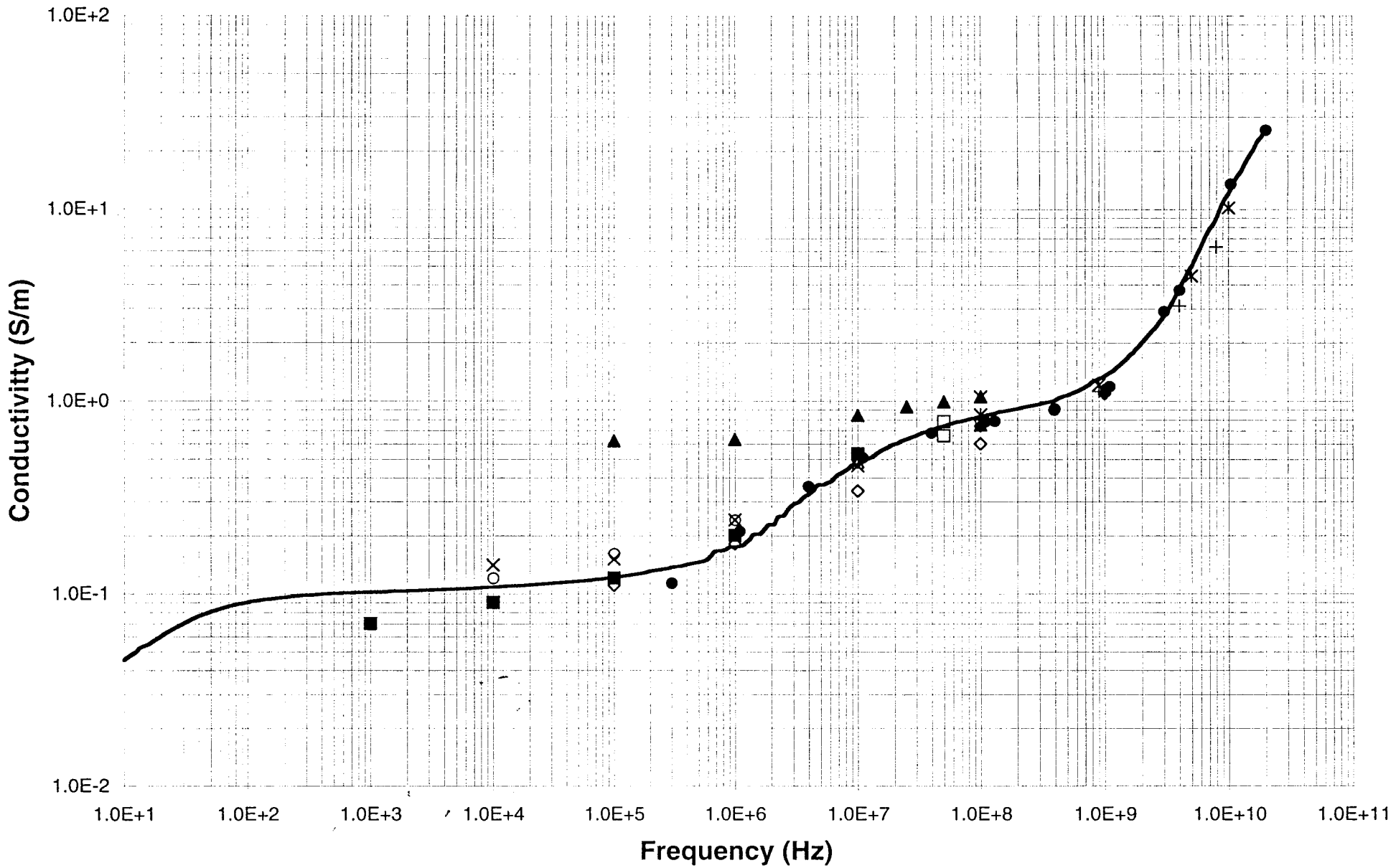
Frequency (Hz)	Properties			Spleen
	ε'	ε''	σ	
5.000E+7	1.350E+2	2.373E+2	6.600E-1	Porcine & Bovine @ 37°C
5.000E+7	1.400E+2	2.804E+2	7.800E-1	Osswald,1937
1.000E+4	2.181E+4	1.618E+5	9.000E-2	
1.000E+5	5.319E+3	1.977E+4	1.100E-1	Bovine @ 25°C
1.000E+6	1.346E+3	3.236E+3	1.800E-1	Surowiec et al, 1985
1.000E+7	2.830E+2	6.112E+2	3.400E-1	
1.000E+8	5.500E+1	1.079E+2	6.000E-1	
1.000E+6	1.800E+3	3.595E+3	2.000E-1	Porcine (In vivo) @ 34-36°C
1.000E+7	3.100E+2	8.628E+2	4.800E-1	Hahn et al, 1980
1.000E+8	4.300E+1	1.348E+2	7.500E-1	
1.000E+4	1.800E+4	2.157E+5	1.200E-1	
1.000E+5	4.500E+3	2.876E+4	1.600E-1	Feline (In vivo)
1.000E+6	2.000E+3	4.314E+3	2.400E-1	@ 34.2°C +/-0.8°C
1.000E+7	4.200E+2	9.707E+2	5.400E-1	Suroweic et al, 1986
1.000E+8	6.500E+1	1.420E+2	7.900E-1	
1.000E+4	5.087E+4	2.517E+5	1.400E-1	
1.000E+5	9.200E+3	2.696E+4	1.500E-1	Human @ 36.8°C
1.000E+6	1.940E+3	4.314E+3	2.400E-1	Suroweic et al,1987
1.000E+7	4.510E+2	8.269E+2	4.600E-1	
1.000E+8	7.630E+1	1.887E+2	1.050E+0	
1.000E+8	8.870E+1	1.528E+2	8.500E-1	
9.000E+8	5.520E+1	2.417E+1	1.210E+0	Rat (In vivo) @ 32°C +/-1°C
5.000E+9	4.980E+1	1.596E+1	4.440E+0	Kraszewski et al, 1982
1.000E+10	4.070E+1	1.823E+1	1.014E+1	
1.000E+8	8.100E+1	1.438E+2	8.000E-1	
9.000E+8	5.400E+1	2.237E+1	1.120E+0	Feline (In vivo) @ 36°C
4.000E+9	5.000E+1	1.393E+1	3.100E+0	Kraszewski et al, 1982
8.000E+9	4.400E+1	1.416E+1	6.300E+0	
1.000E+3	8.600E+4	1.258E+6	7.000E-2	
1.000E+4	2.800E+4	1.618E+5	9.000E-2	Canine @ 22-24°C
1.000E+5	5.800E+3	2.157E+4	1.200E-1	Astbury et al, 1988
1.000E+6	2.300E+3	3.595E+3	2.000E-1	
1.000E+7	5.800E+2	9.527E+2	5.300E-1	
1.000E+7	3.980E+2	9.527E+2	5.300E-1	Feline @ 35°C +/-1°C
1.000E+8	7.500E+1	1.330E+2	7.400E-1	Stuchly et al, 1981
1.000E+9	4.700E+1	1.959E+1	1.090E+0	
1.000E+5	3.260E+3	2.229E+2	6.200E-1	
1.000E+6	1.450E+3	1.132E+4	6.300E-1	
1.000E+7	3.210E+2	1.510E+3	8.400E-1	Canine @ 37°C
2.500E+7	1.800E+2	6.687E+2	9.300E-1	Stoy et al, 1982
5.000E+7	1.100E+2	3.559E+2	9.900E-1	
1.000E+8	8.300E+1	1.887E+2	1.050E+0	
3.000E+5	1.630E+3	6.786E+3	1.133E-1	
1.089E+6	2.706E+3	3.456E+3	2.094E-1	

3.955E+6	9.471E+2	1.638E+3	3.605E-1	
1.089E+7	3.965E+2	8.396E+2	5.088E-1	
3.955E+7	1.355E+2	3.106E+2	6.833E-1	
1.089E+8	7.957E+1	1.291E+2	7.825E-1	
3.955E+8	6.172E+1	4.132E+1	9.090E-1	Human @ 37°C
1.089E+9	5.736E+1	1.965E+1	1.191E+0	Current study measurements
3.000E+9	5.026E+1	1.738E+1	2.901E+0	
1.300E+8	7.674E+1	1.085E+2	7.848E-1	
3.936E+8	6.364E+1	4.127E+1	9.037E-1	
1.025E+9	5.950E+1	2.037E+1	1.161E+0	
3.992E+9	5.399E+1	1.694E+1	3.761E+0	
1.039E+10	4.072E+1	2.338E+1	1.352E+1	
2.000E+10	2.861E+1	2.307E+1	2.567E+1	

Spleen


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Spleen


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Spleen

□ Porcine & Bovine @ 37°C (5E7Hz) Osswald,1937

◇ Bovine @ 25°C (1E4-1E8Hz) Surowiec et al, 1985

△ Porcine (In vivo) @ 34-36°C (1E6-1E8Hz) Hahn et al, 1980

○ Feline (In vivo) @ 34.2°C ±0.8°C (1E4-1E8Hz) Suroweic et al, 1986

× Human @ 36.8°C (1E4-1E8Hz) Suroweic et al,1987

✳ Rat (In vivo) @ 32°C ±1°C (1E8-1E10Hz Kraszewski et al, 1982

\+ Feline (In vivo) @ 36°C (1E8-8E9Hz) Kraszewski et al, 1982

■ Canine @ 22-24°C (1E3-1E7Hz) Astbury et al, 1988

◆ Feline @ 35°C ±1°C (1E7-1E9Hz) Stuchly et al, 1981

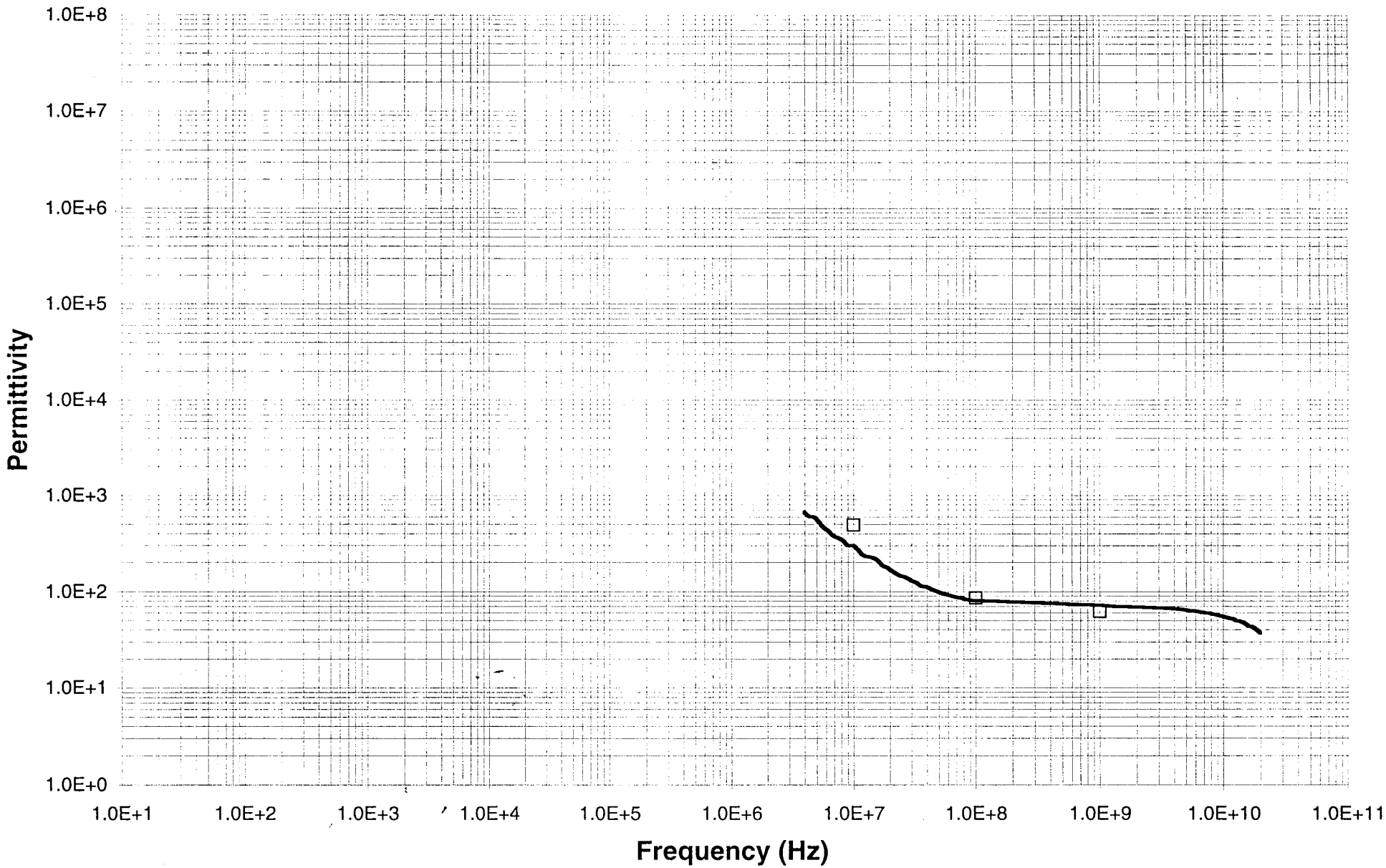
▲ Canine @ 37°C (1E5-1E8Hz) Stoy et al, 1982

● Human @ 37°C (3E5-2E10Hz) Current study measurements

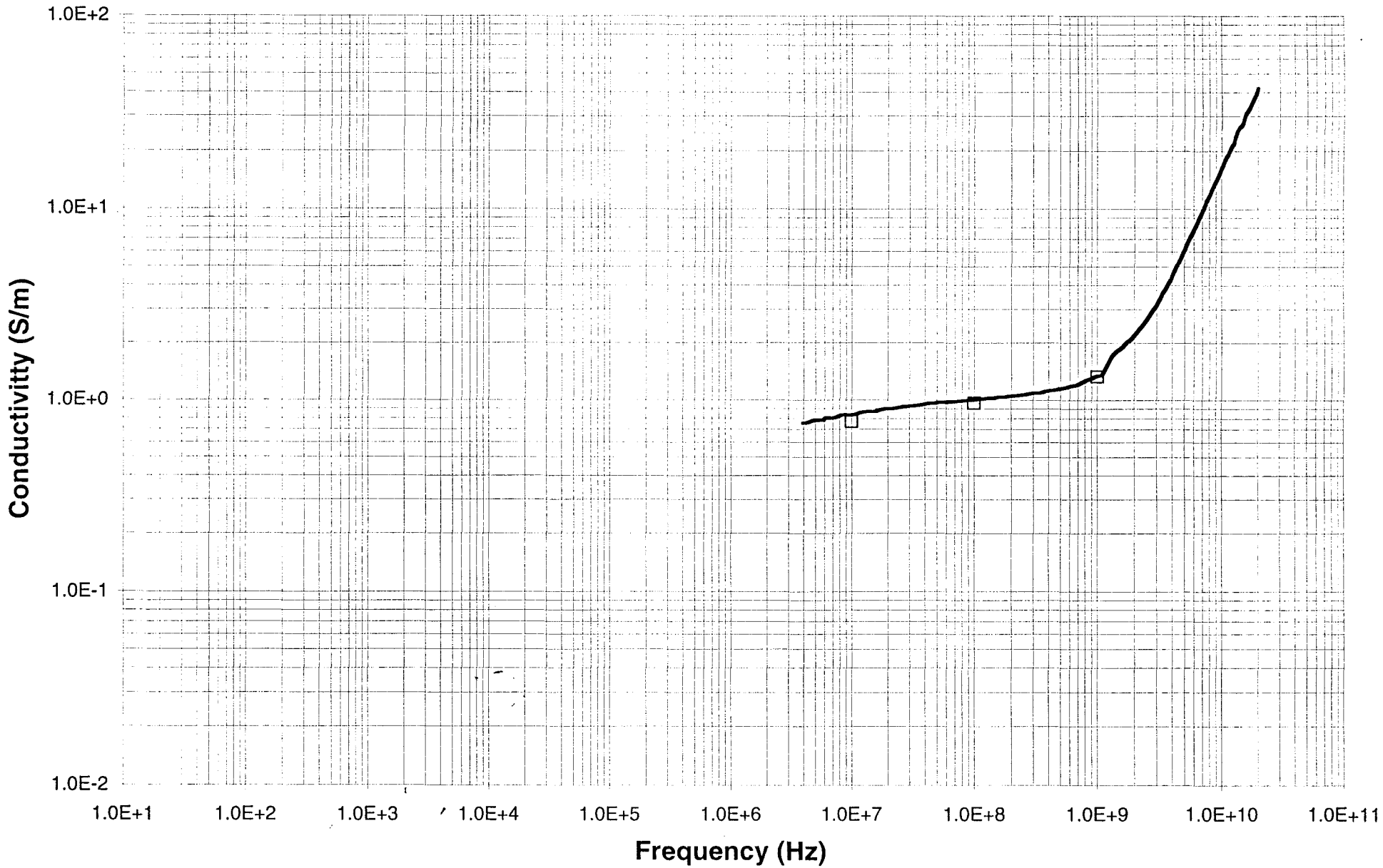
—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Stomach
	ε'	ε''	σ (S/m)	
1.000E+7	4.900E+2	1.384E+3	7.700E-1	Feline (In vivo-smooth muscle)
1.000E+8	8.500E+1	1.726E+2	9.600E-1	@ 35°C+/-0.5°C
1.000E+9	6.200E+1	2.391E+1	1.330E+0	Stuchly et al,1981

Stomach


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
Permittivity
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

Stomach


1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
Conductivitty (S/m)
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)

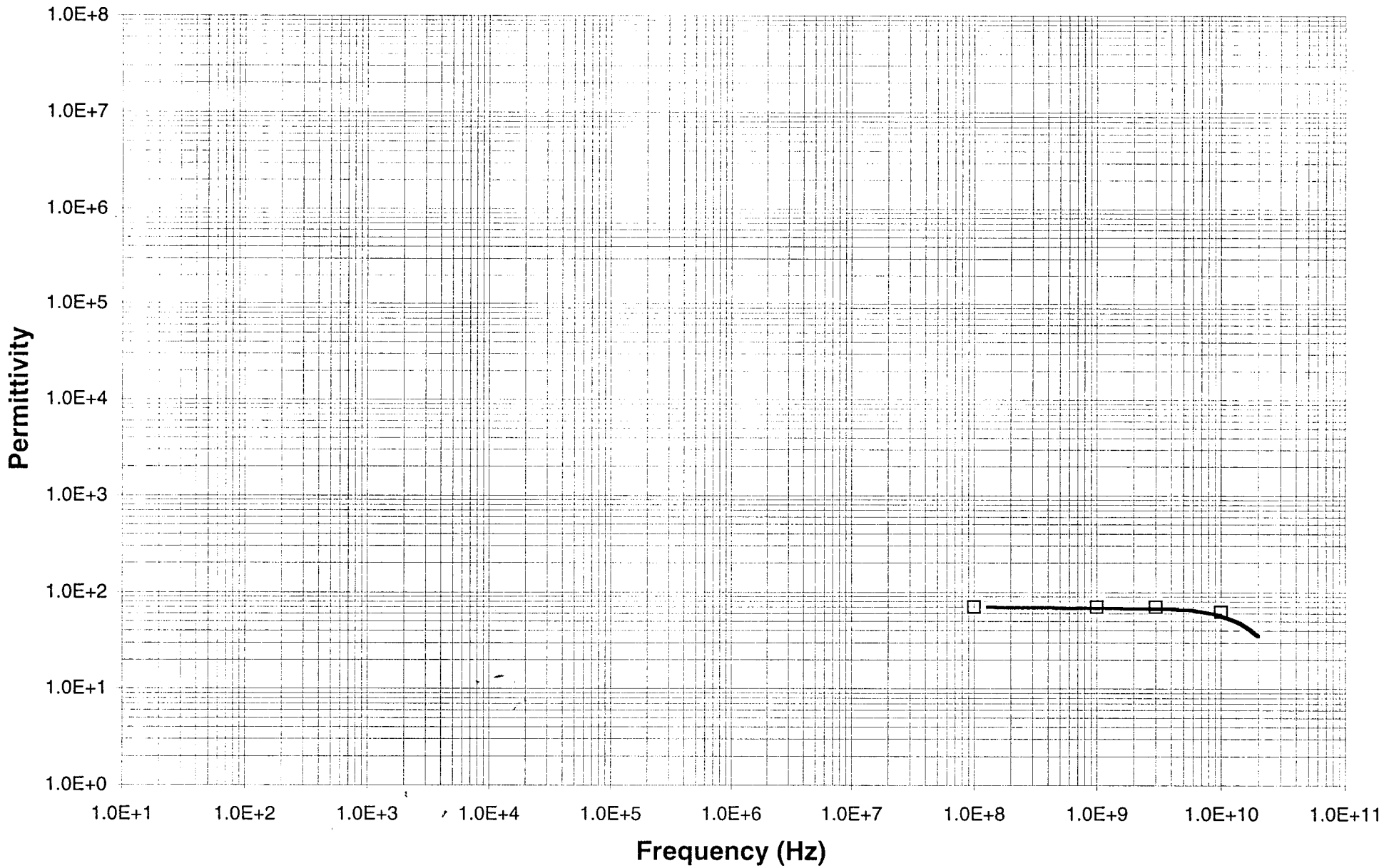
Stomach

□ Feline (In vivo-smooth muscle) @ 35°C (1E7-1E9Hz) Stuchly et al,1981

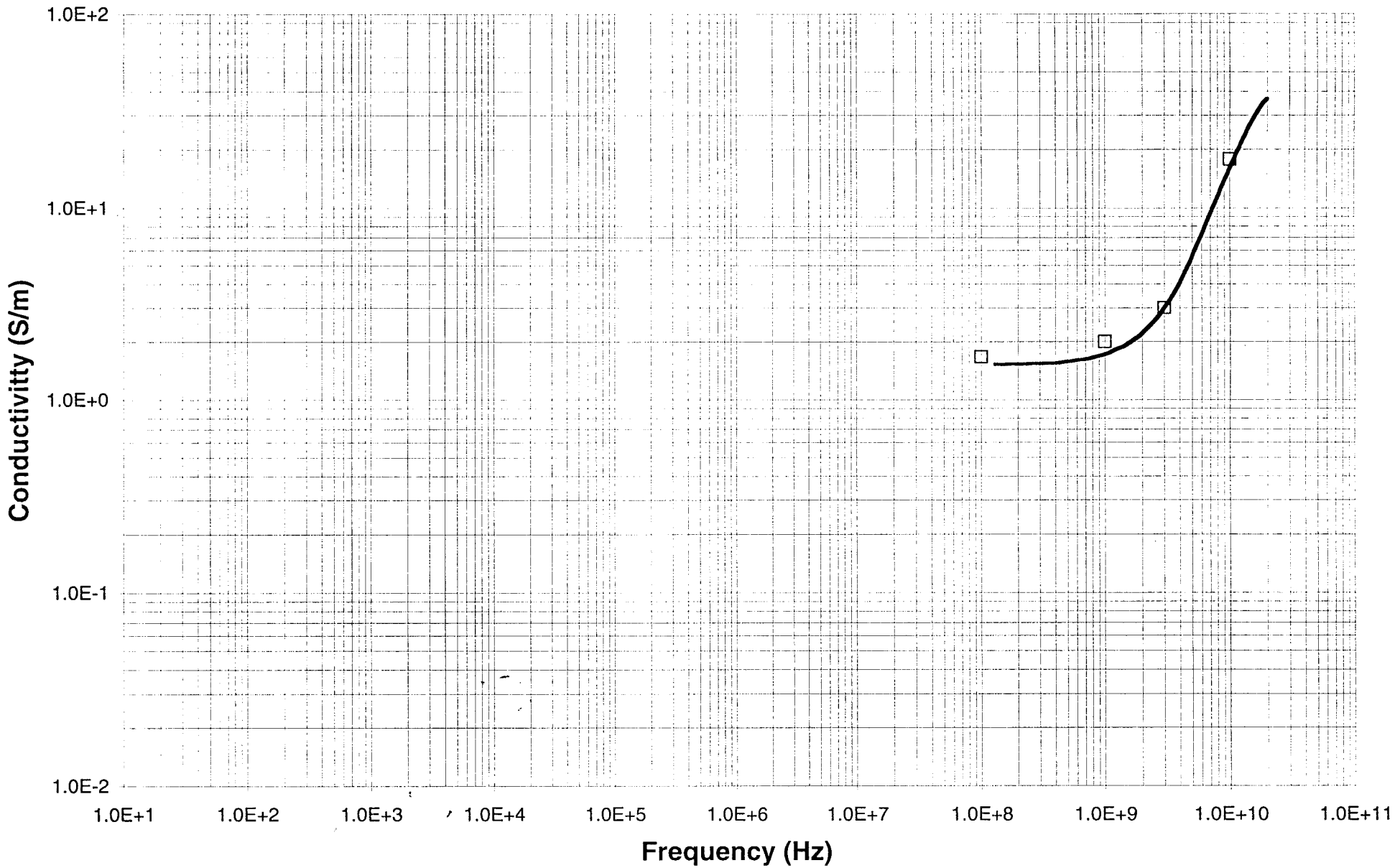
—— Human @ 37°C (4E6-2E10Hz) Current study measurements

Frequency (Hz)	Properties			Vitreous Humour
	ε'	ε''	σ (S/m)	
1.000E+8	7.000E+1	3.002E+2	1.670E+0	
1.000E+9	7.000E+1	3.595E+1	2.000E+0	Bovine
3.000E+9	7.000E+1	1.798E+1	3.000E+0	Schwan, 1958
1.000E+10	6.200E+1	3.200E+1	1.780E+1	

Vitreous Humour



Vitreous Humour



Vitreous Humour

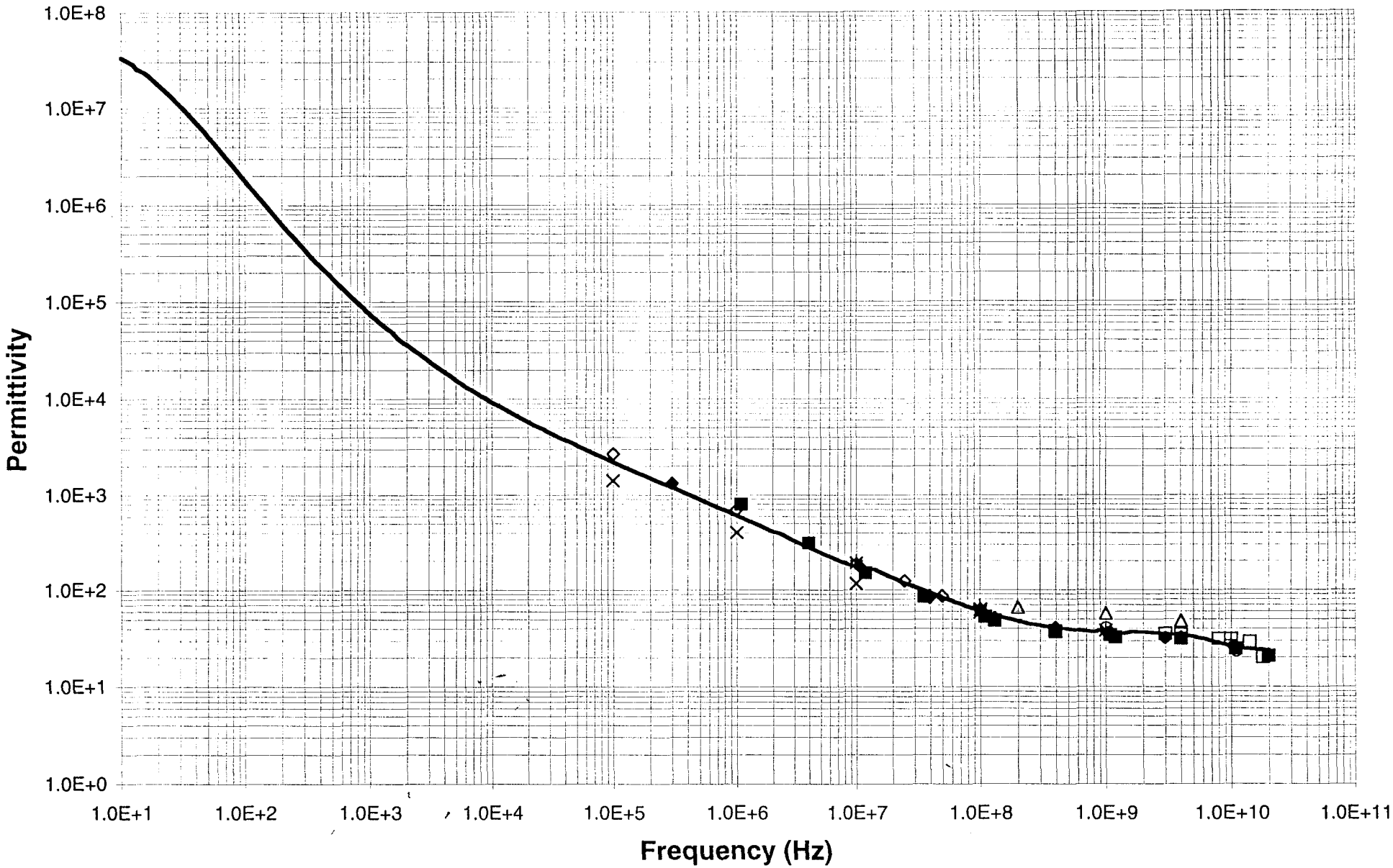
□ Bovine (1E8-1E10Hz) Schwan, 1958

—— Ovine @ 37°C (1E8-2E10Hz) Current study measurements

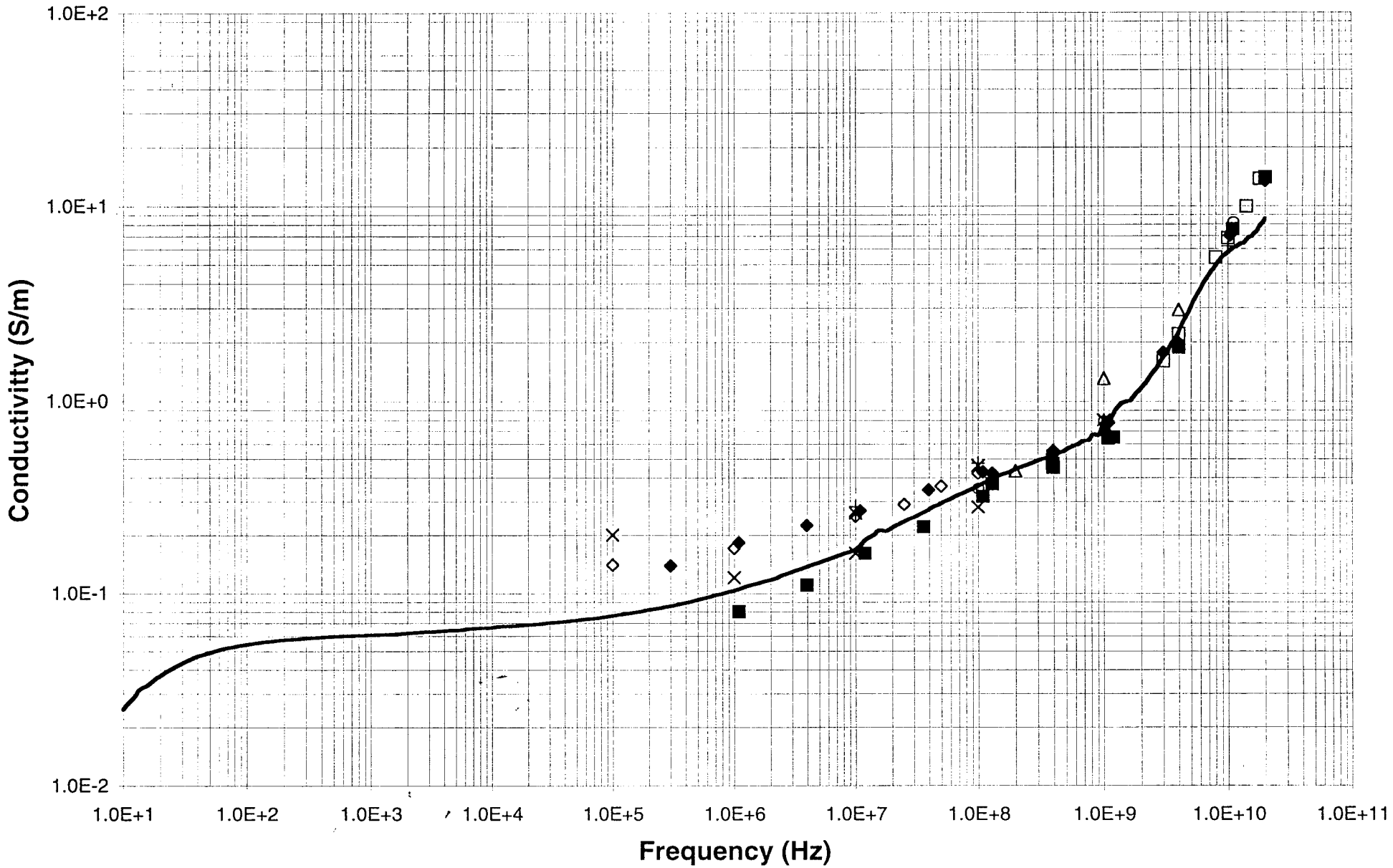
Frequency (Hz)	Properties			White Matter
	ε'	ε''	σ (S/m)	
3.000E+9	3.540E+1	9.587E+0	1.600E+0	
4.000E+9	3.440E+1	9.886E+0	2.200E+0	
8.000E+9	3.140E+1	1.213E+1	5.400E+0	Rabbit @ 37°C
1.000E+10	3.080E+1	1.222E+1	6.800E+0	Steel & Sheppard, 1985
1.400E+10	2.880E+1	1.271E+1	9.900E+0	
1.800E+10	1.990E+1	1.378E+1	1.380E+1	
1.000E+5	2.680E+3	2.517E+4	1.400E-1	
1.000E+6	6.850E+2	3.056E+3	1.700E-1	
1.000E+7	1.860E+2	4.494E+2	2.500E-1	Canine @ 37°C
2.500E+7	1.220E+2	2.085E+2	2.900E-1	Stoy et al, 1982
5.000E+7	8.500E+1	1.294E+2	3.600E-1	
1.000E+8	6.200E+1	7.550E+1	4.200E-1	
2.000E+8	6.600E+1	3.865E+1	4.300E-1	Canine (In situ-pia mater)
1.000E+9	5.700E+1	2.337E+1	1.300E+0	@ 36°C
4.000E+9	4.800E+1	1.308E+1	2.910E+0	Burdette et al, 1986
1.000E+8	5.986E+1	6.291E+1	3.500E-1	Canine @ 20°C +/- 1°C
1.000E+9	4.119E+1	1.420E+1	7.900E-1	Xu et al, 1987
1.100E+10	2.310E+1	1.337E+1	8.180E+0	
1.000E+5	1.400E+3	3.595E+4	2.000E-1	
1.000E+6	4.000E+2	2.157E+3	1.200E-1	Bovine @ 24-25°C
1.000E+7	1.150E+2	2.876E+2	1.600E-1	Suroweic et al, 1986
1.000E+8	5.800E+1	5.033E+1	2.800E-1	
1.000E+7	1.890E+2	4.674E+2	2.600E-1	Feline (In vivo) @ 33°C
1.000E+8	6.200E+1	8.269E+1	4.600E-1	Stuchley et al, 1981
1.000E+9	3.800E+1	1.438E+1	8.000E-1	
1.000E+7	2.000E+2	5.051E+2	2.810E-1	Canine @ 37°C
1.000E+8	6.800E+1	8.502E+1	4.730E-1	Foster et al 1979
1.000E+10	3.000E+1	1.110E+1	6.175E+0	
1.090E+6	7.893E+2	1.246E+3	8.000E-2	
3.950E+6	3.093E+2	5.047E+2	1.100E-1	
1.190E+7	1.497E+2	2.369E+2	1.600E-1	
3.610E+7	8.541E+1	1.121E+2	2.200E-1	
1.090E+8	5.266E+1	5.200E+1	3.200E-1	
3.950E+8	3.671E+1	2.036E+1	4.500E-1	Ovine @ 37°C
1.190E+9	3.237E+1	9.770E+0	6.500E-1	Current study measurements
1.300E+8	4.832E+1	5.130E+1	3.700E-1	
3.940E+8	3.760E+1	2.151E+1	4.700E-1	
1.080E+9	3.405E+1	1.059E+1	6.400E-1	
3.990E+9	3.135E+1	8.430E+0	1.870E+0	
1.090E+10	2.464E+1	1.239E+1	7.540E+0	
2.000E+10	2.067E+1	1.259E+1	1.400E+1	
3.000E+5	1.307E+3	8.293E+3	1.387E-1	
1.089E+6	7.877E+2	3.000E+3	1.817E-1	
3.955E+6	3.137E+2	1.017E+3	2.240E-1	

1.089E+7	1.673E+2	4.437E+2	2.687E-1	
3.955E+7	8.287E+1	1.570E+2	3.450E-1	
1.089E+8	5.477E+1	7.017E+1	4.253E-1	
3.955E+8	4.043E+1	2.497E+1	5.497E-1	Human @ 37°C
1.089E+9	3.613E+1	1.277E+1	7.723E-1	Current study measurements
3.000E+9	3.170E+1	1.057E+1	1.763E+0	
1.300E+8	5.120E+1	5.801E+1	4.195E-1	
3.936E+8	3.889E+1	2.414E+1	5.287E-1	
1.025E+9	3.548E+1	1.220E+1	6.955E-1	
3.992E+9	3.238E+1	8.875E+0	1.971E+0	
1.039E+10	2.593E+1	1.210E+1	6.993E+0	
2.000E+10	1.989E+1	1.206E+1	1.342E+1	

White Matter



White Matter



White Matter

□ Rabbit @ 37°C (3E9-2E10Hz) Steel & Sheppard, 1985

◇ Canine @ 37°C (1E5-1E8Hz) Stoy et al, 1982

△ Canine (In situ-pia mater) @ 36°C (2E8-4E9Hz) Burdette et al, 1986

○ Canine @ 20°C ±1°C (1E8-1E10Hz) Xu et al, 1987

× Bovine @ 24-25°C (1E5-1E8Hz) Suroweic et al, 1986b

✳ Feline (In vivo) @ 33°C (1E7-1E9Hz) Stuchley et al, 1981

\+ Canine @ 37°C (1E7-1E10Hz) Foster et al 1979

■ Ovine @ 37°C (1E6-2E10Hz Current study measurements

◆ Human @ 37°C (3E5-2E10Hz) Current study measurements

—— Ovine @ 37°C (1E1-2E10Hz) Current study measurements

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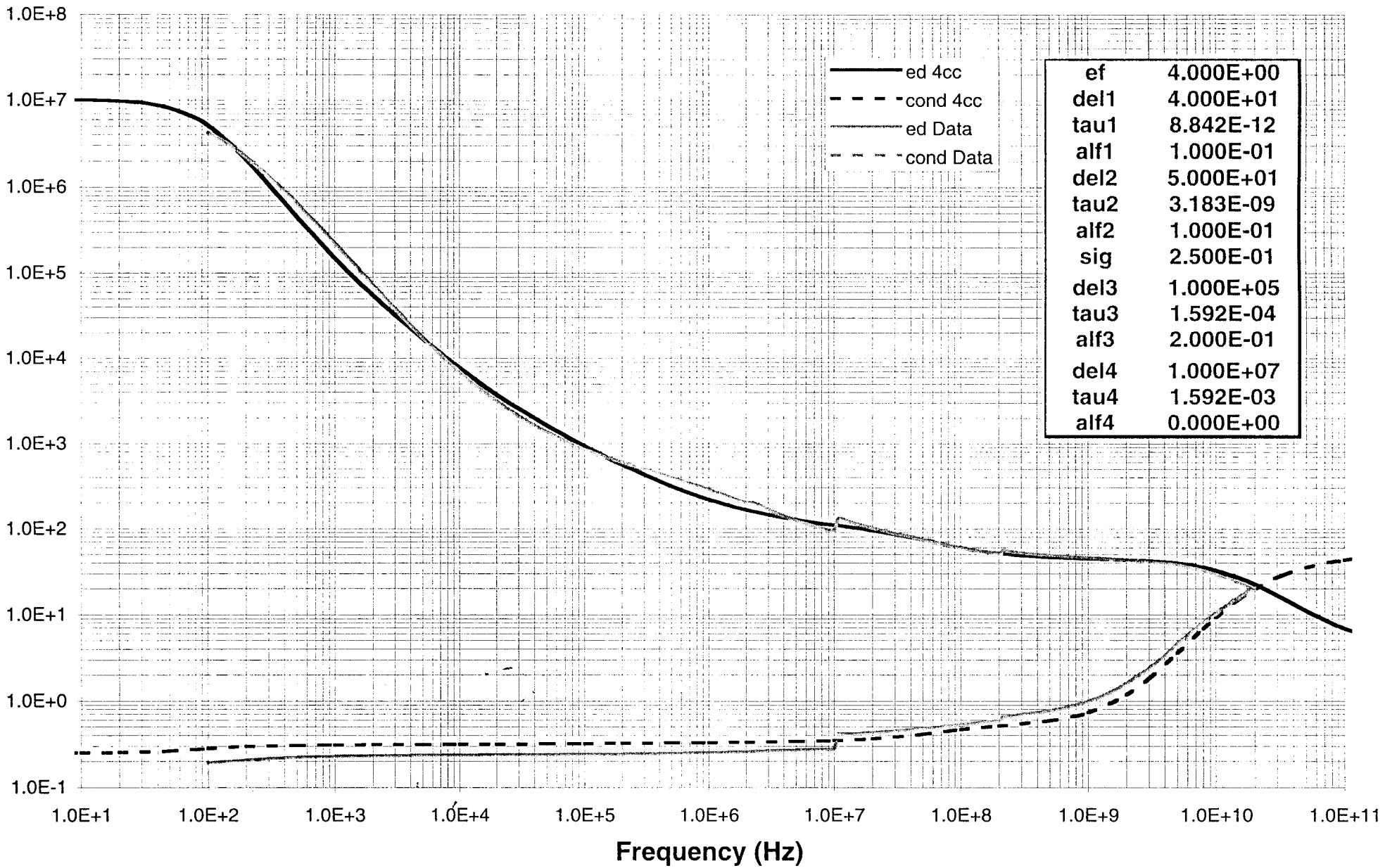
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APPENDIX C: Modelling the frequency dependence of the dielectric properties to a 4 dispersions spectrum.

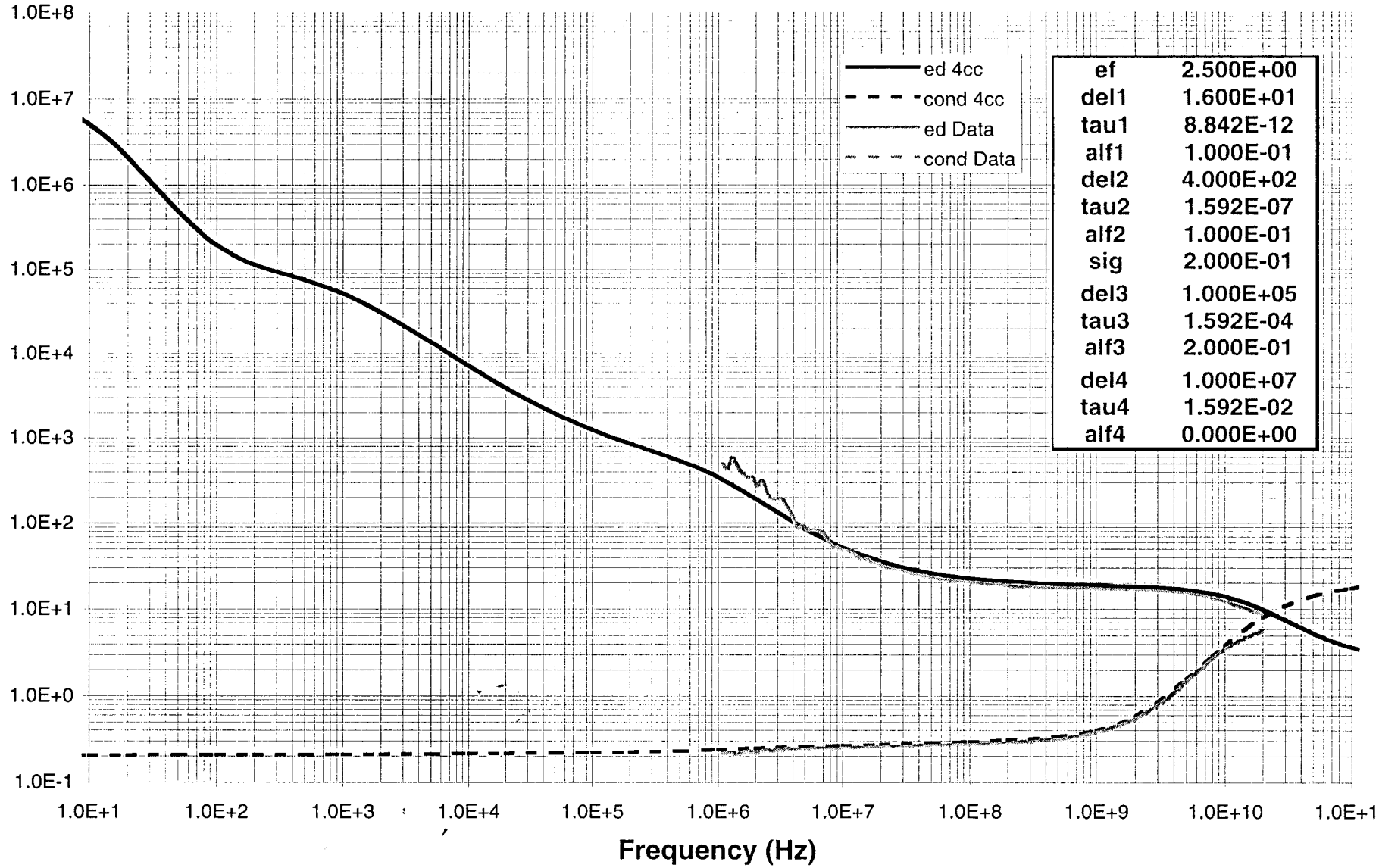
The 4-Cole-Cole analysis was carried out on the following tissues:

1. Aorta
2. Bladder
3. Blood
4. Bone -Cancellous (contains red bone marrow)
5. Bone -Cortical
6. Bone -Marrow (infiltrated with blood)
7. Bone -Marrow (not infiltrated)
8. Breast fat
9. Cartilage
10. Cerebellum
11. Cerebro Spinal Fluid
12. Cervix
13. Colon (lower and upper large intestine)
14. Cornea
15. Dura
16. Eye (Sclera)
17. Fat (mean value provided)
18. Fat (not infiltrated)
19. Gall Bladder
20. Gall Bladder Bile
21. Grey Matter
22. Heart
23. Kidney
24. Lens Cortex
25. Lens Nucleus (for lens use average of cortex and nucleus)
26. Liver
27. Lung -Deflated
28. Lung -Inflated
29. Muscle -Parallel (provided for comparison purposes)
30. Muscle -Transverse (Radial field direction was along then across the fibre)
31. Nerve (spinal chord)
32. Ovary
33. Skin -Dry
34. Skin -Wet
35. Small Intestine
36. Spleen
37. Stomach (also oesophagus, duodenum and all upper digestive track)
38. Tendon
39. Testis (prostate has a similar composition, expect similar dielectric properties)
40. Thyroid (thymus has a similar water content, expect similar properties)
41. Tongue
42. Trachea
43. Uterus
44. Vitreous Humour
45. White Matter

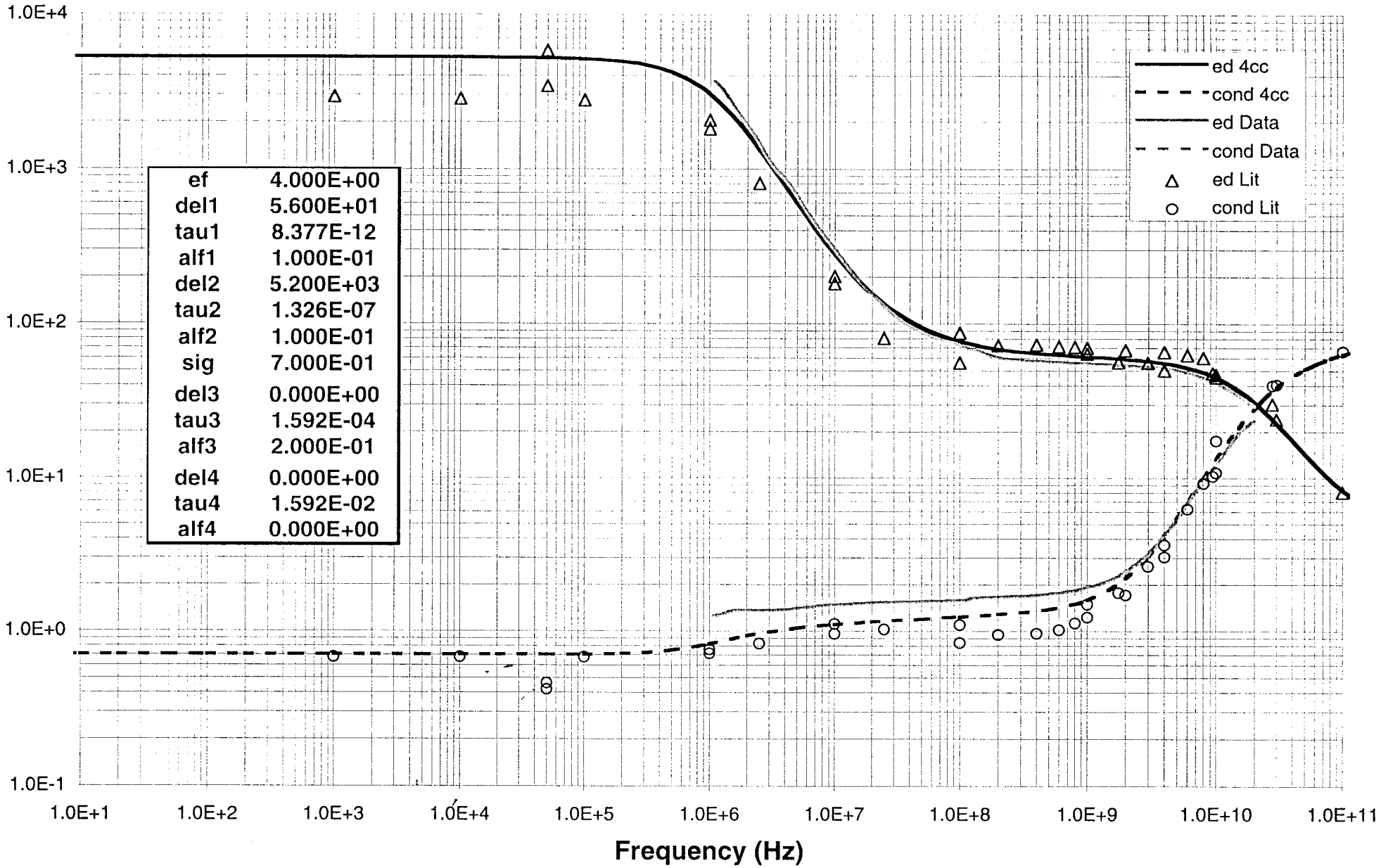
Aorta


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 4.000E+01
tau1 8.842E-12
alf1 1.000E-01
del2 5.000E+01
tau2 3.183E-09
alf2 1.000E-01
sig 2.500E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 1.000E+07
tau4 1.592E-03
alf4 0.000E+00

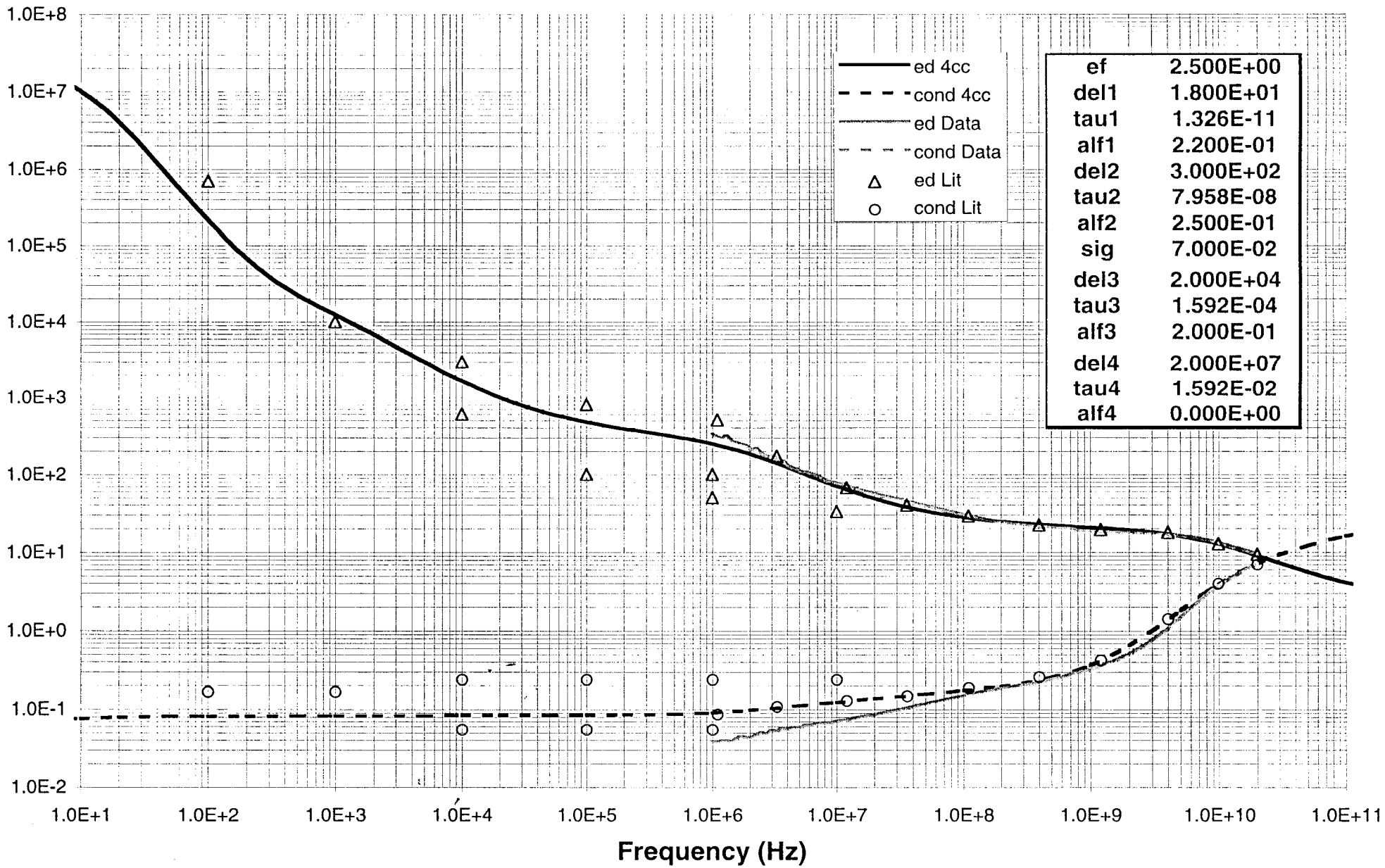
Bladder


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 2.500E+00
del1 1.600E+01
tau1 8.842E-12
alf1 1.000E-01
del2 4.000E+02
tau2 1.592E-07
alf2 1.000E-01
sig 2.000E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 1.000E+07
tau4 1.592E-02
alf4 0.000E+00

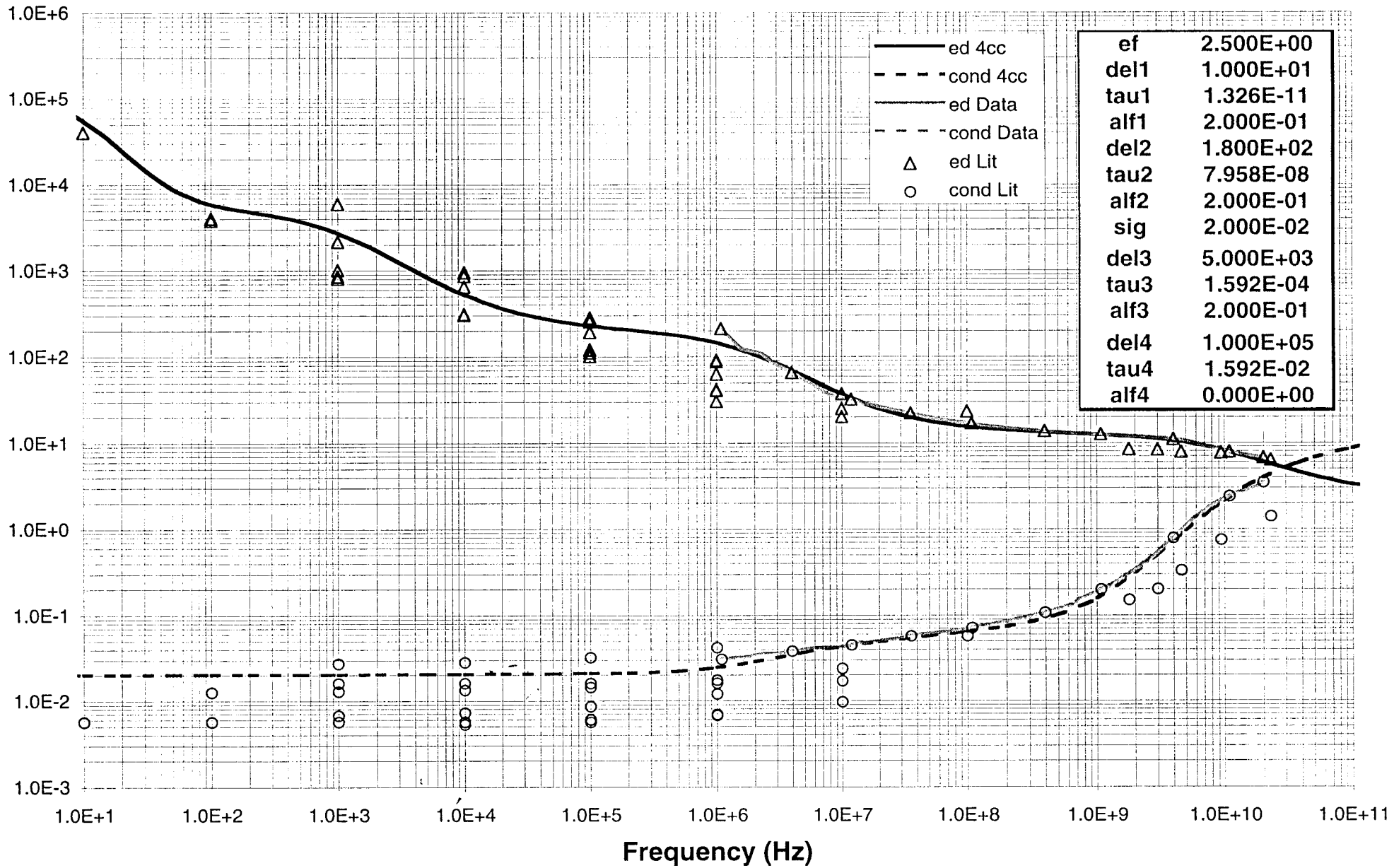
Blood


1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 5.600E+01
tau1 8.377E-12
alf1 1.000E-01
del2 5.200E+03
tau2 1.326E-07
alf2 1.000E-01
sig 7.000E-01
del3 0.000E+00
tau3 1.592E-04
alf3 2.000E-01
del4 0.000E+00
tau4 1.592E-02
alf4 0.000E+00

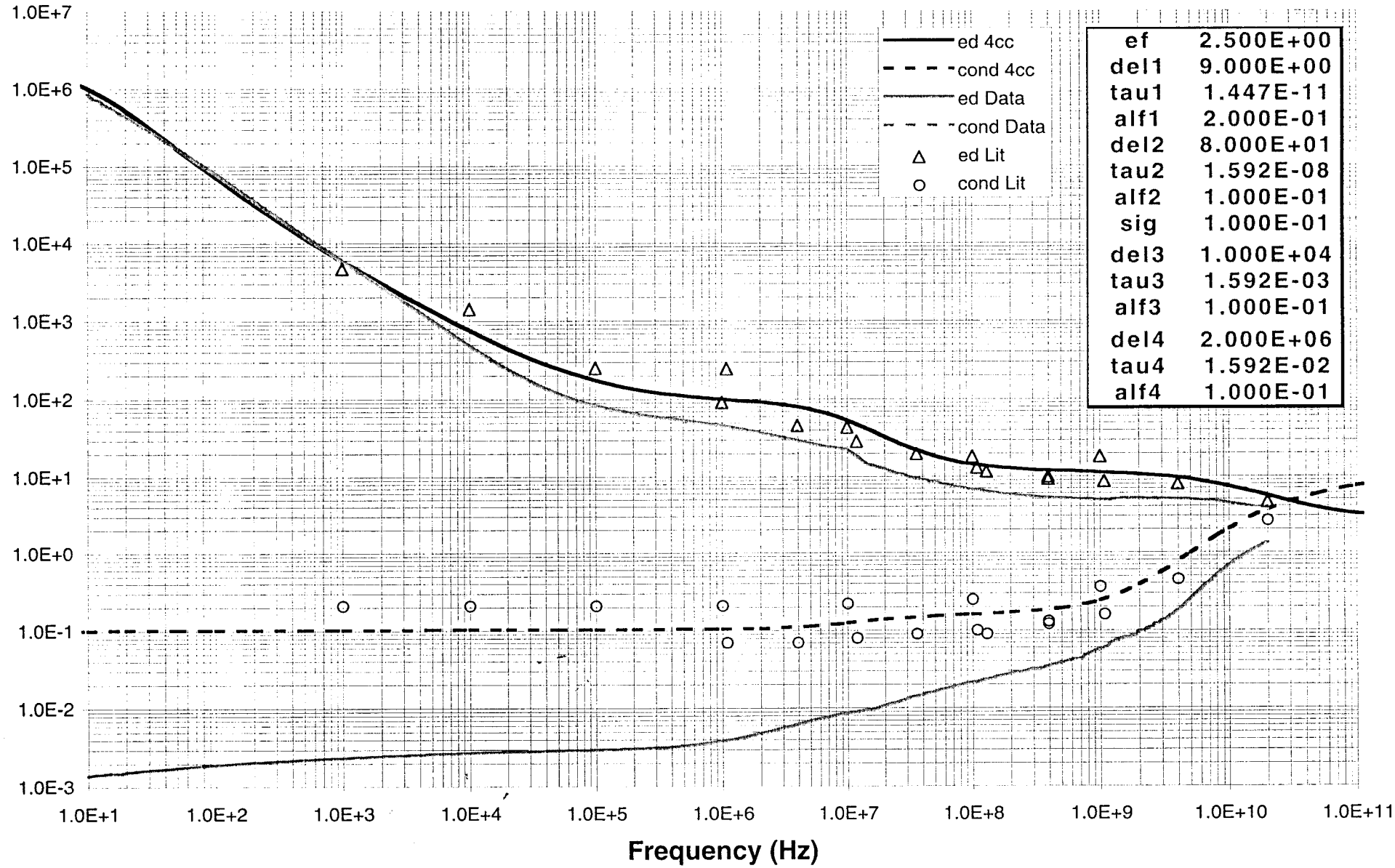
Bone Cancellous



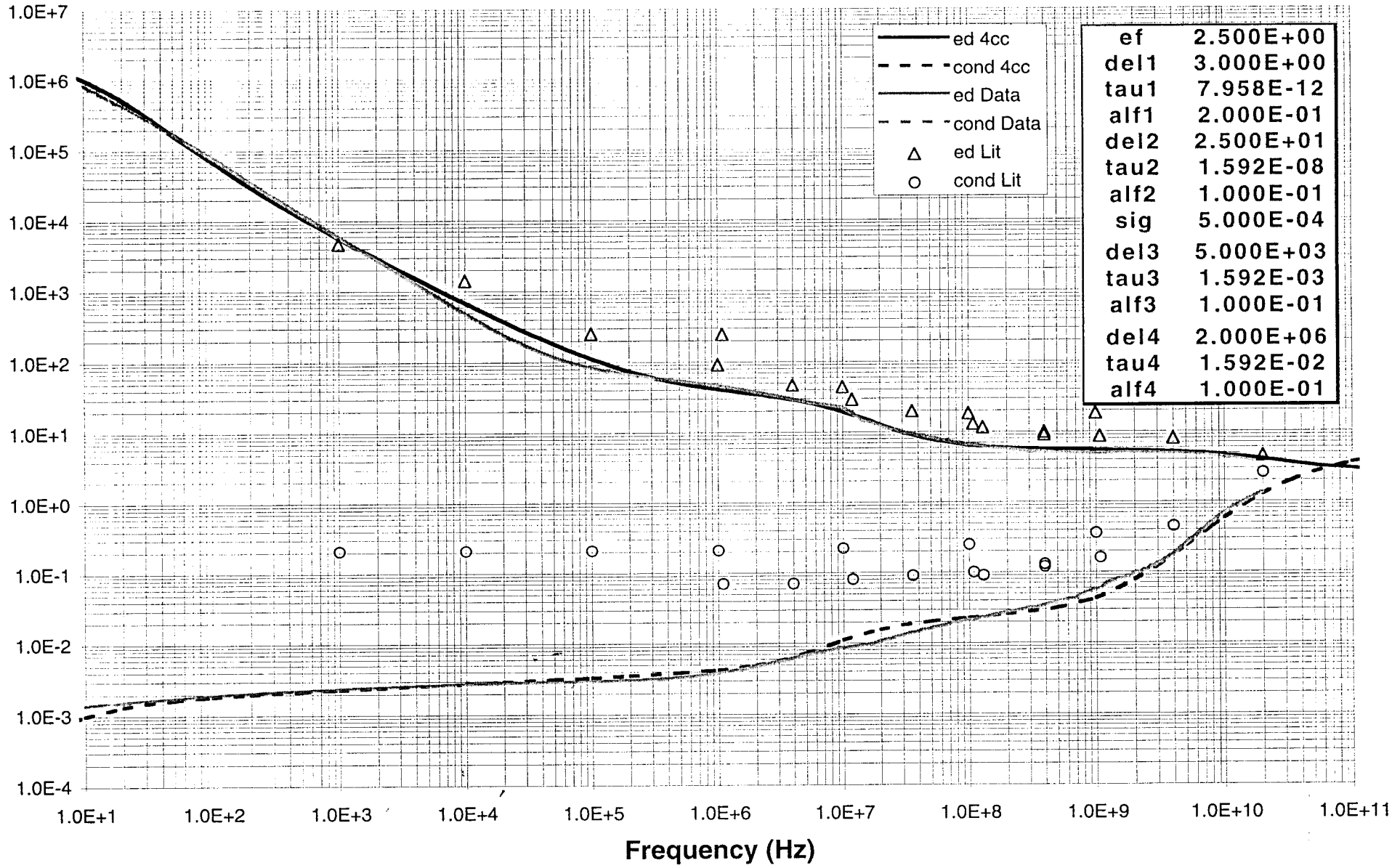
Bone Cortical



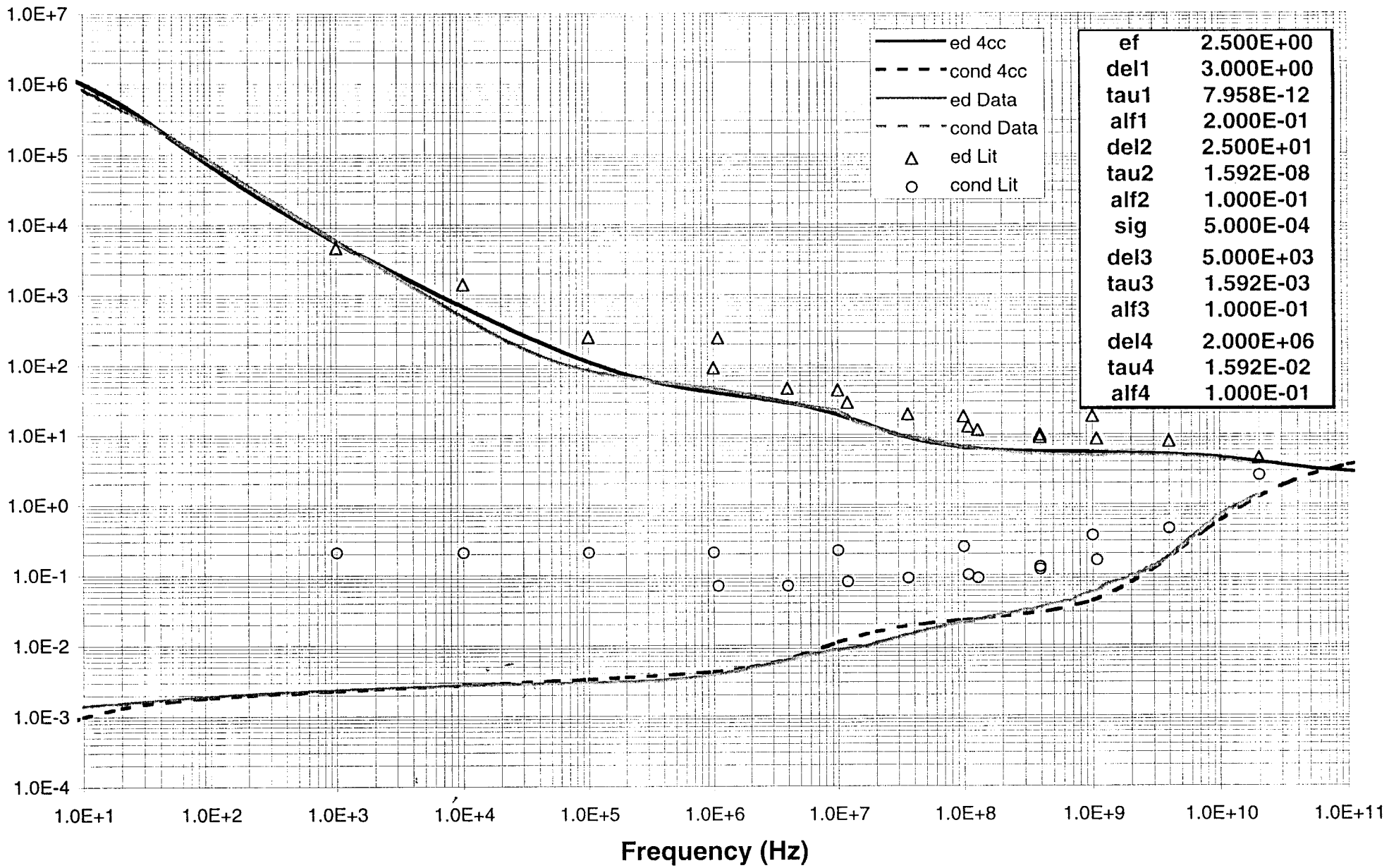
Bone Marrow (Infiltrated)



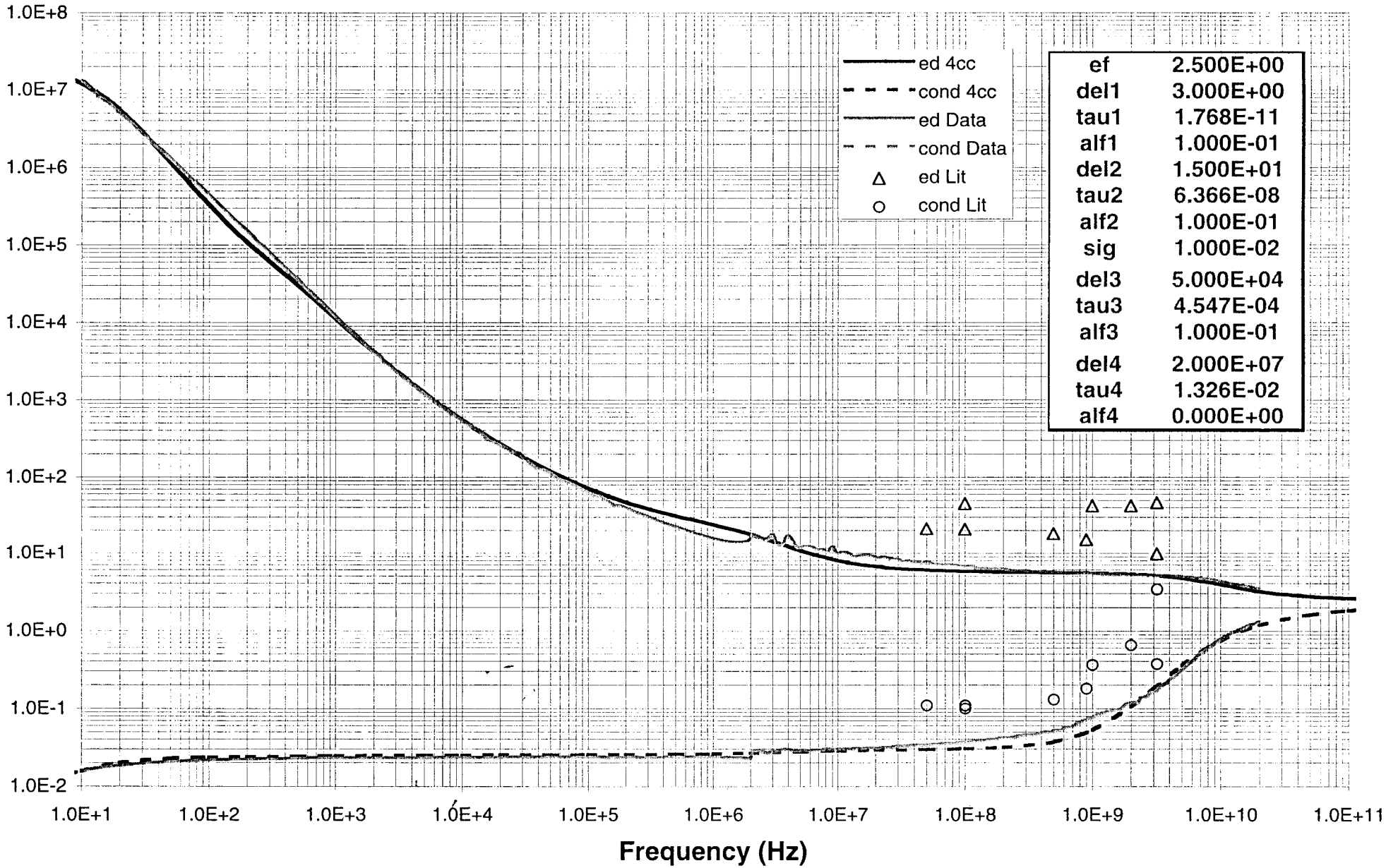
Bone Marrow (Not Infiltrated)



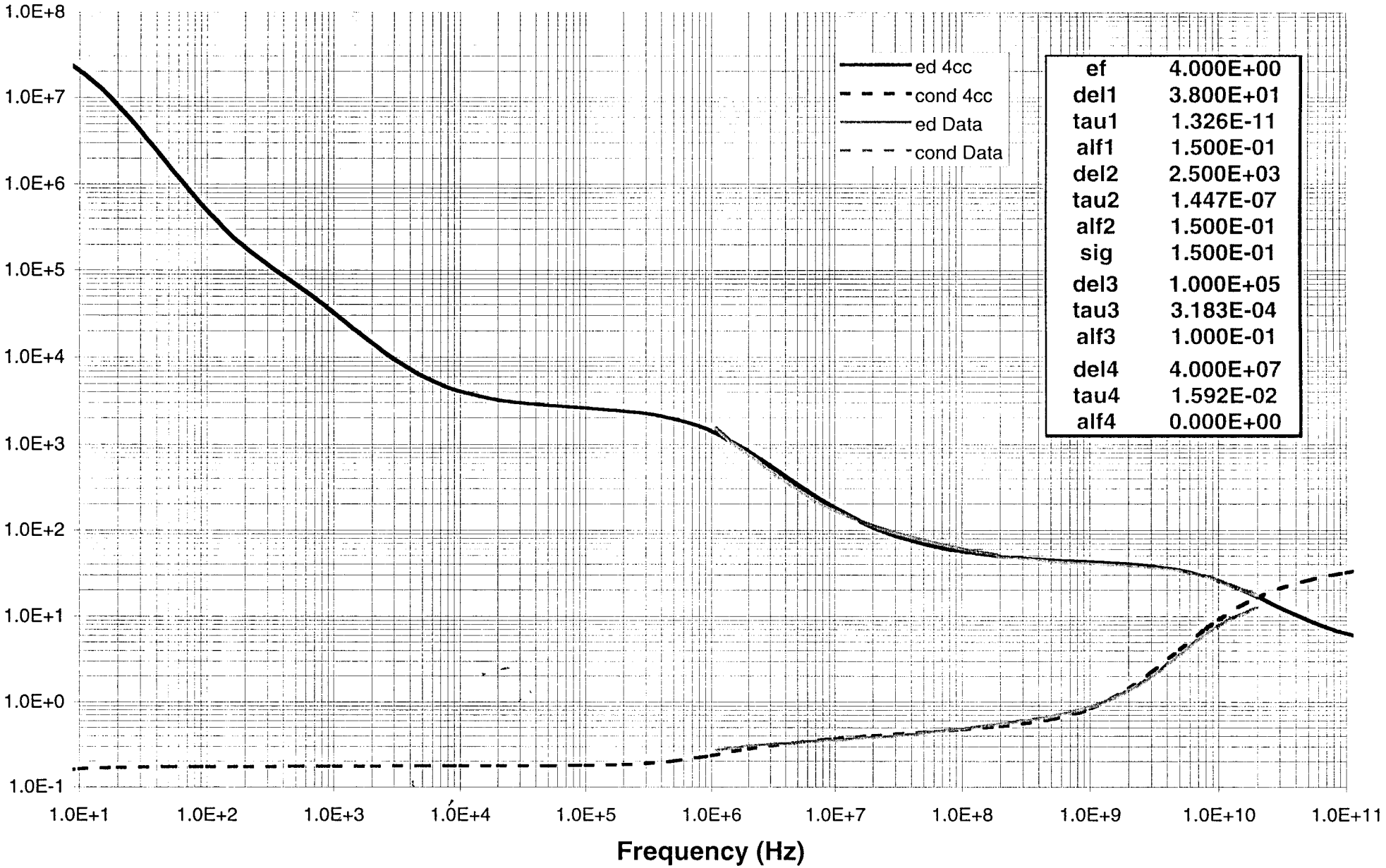
Bone Marrow


1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E-4
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 2.500E+00
del1 3.000E+00
tau1 7.958E-12
alf1 2.000E-01
del2 2.500E+01
tau2 1.592E-08
alf2 1.000E-01
sig 5.000E-04
del3 5.000E+03
tau3 1.592E-03
alf3 1.000E-01
del4 2.000E+06
tau4 1.592E-02
alf4 1.000E-01

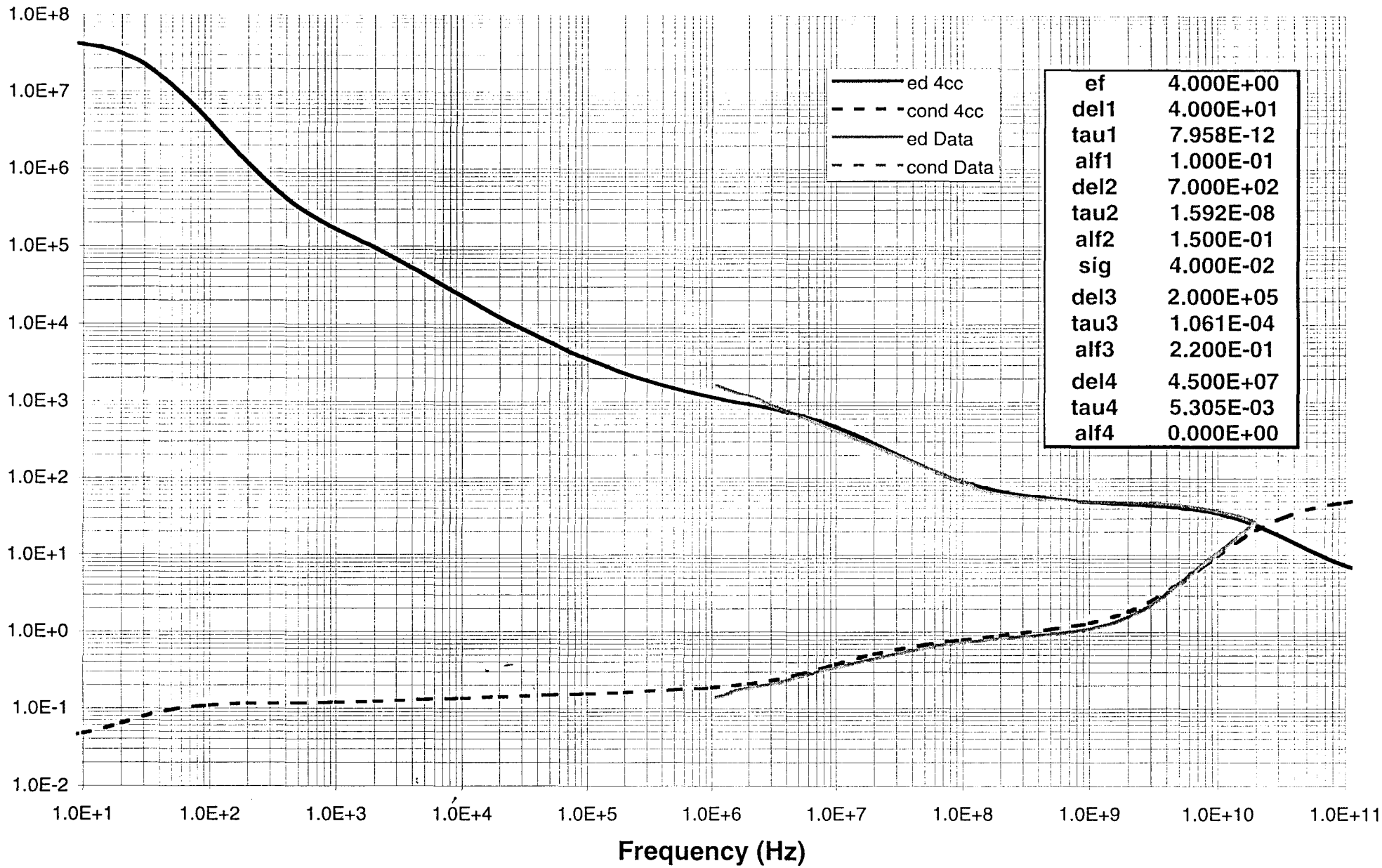
Breast Fat


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 2.500E+00
del1 3.000E+00
tau1 1.768E-11
alf1 1.000E-01
del2 1.500E+01
tau2 6.366E-08
alf2 1.000E-01
sig 1.000E-02
del3 5.000E+04
tau3 4.547E-04
alf3 1.000E-01
del4 2.000E+07
tau4 1.326E-02
alf4 0.000E+00

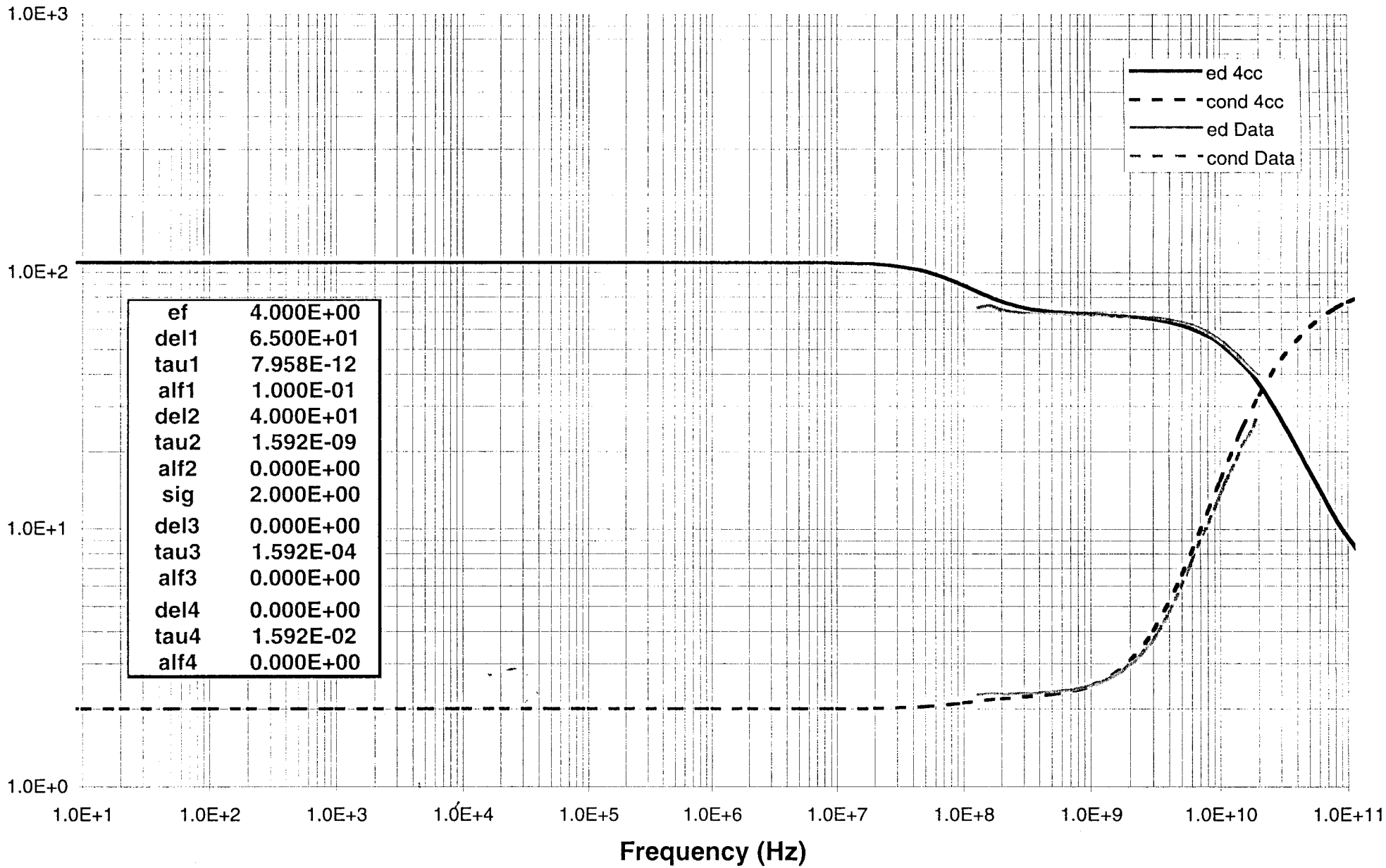
Cartilage


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 3.800E+01
tau1 1.326E-11
alf1 1.500E-01
del2 2.500E+03
tau2 1.447E-07
alf2 1.500E-01
sig 1.500E-01
del3 1.000E+05
tau3 3.183E-04
alf3 1.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

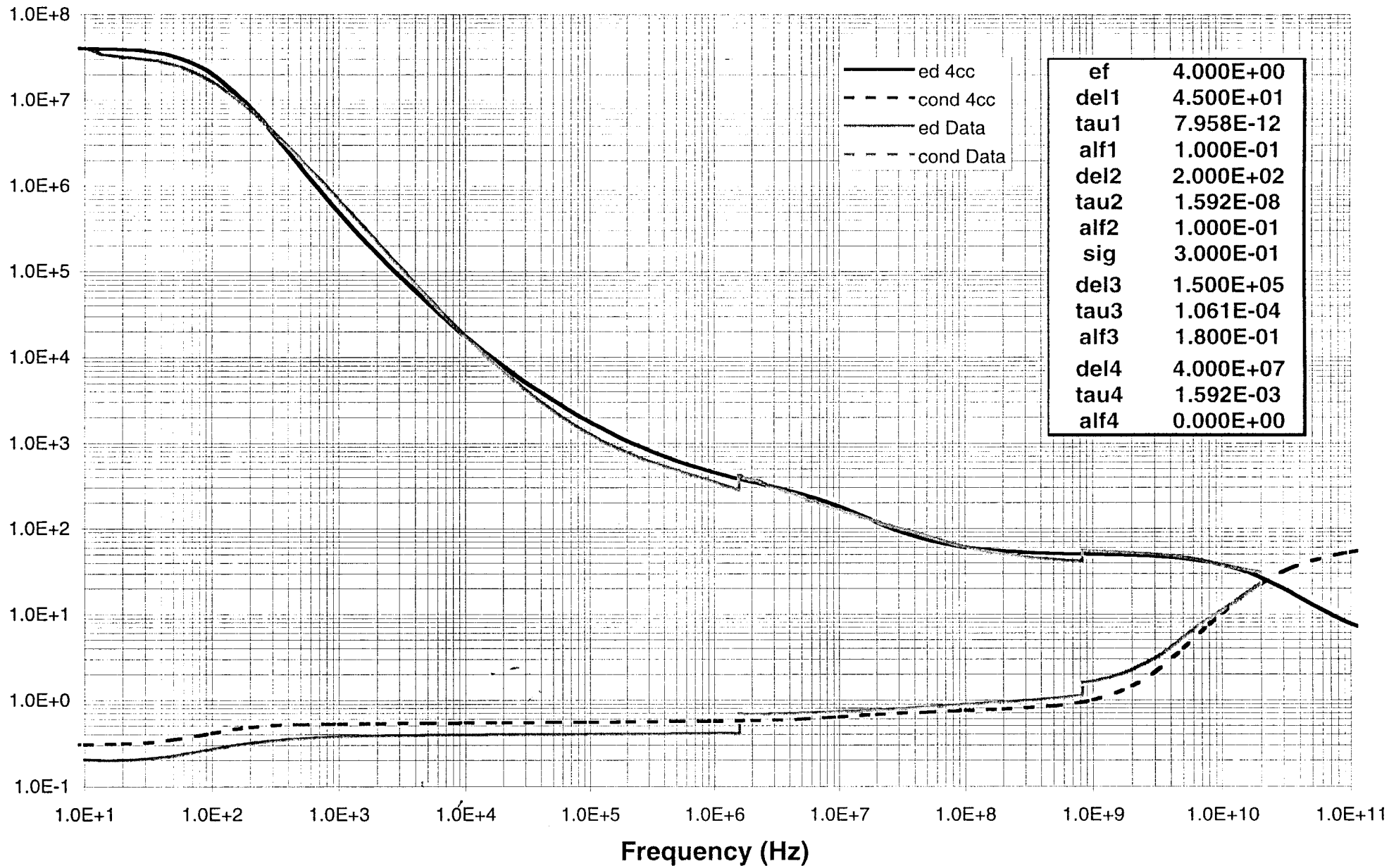
Cerebellum


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 4.000E+01
tau1 7.958E-12
alf1 1.000E-01
del2 7.000E+02
tau2 1.592E-08
alf2 1.500E-01
sig 4.000E-02
del3 2.000E+05
tau3 1.061E-04
alf3 2.200E-01
del4 4.500E+07
tau4 5.305E-03
alf4 0.000E+00

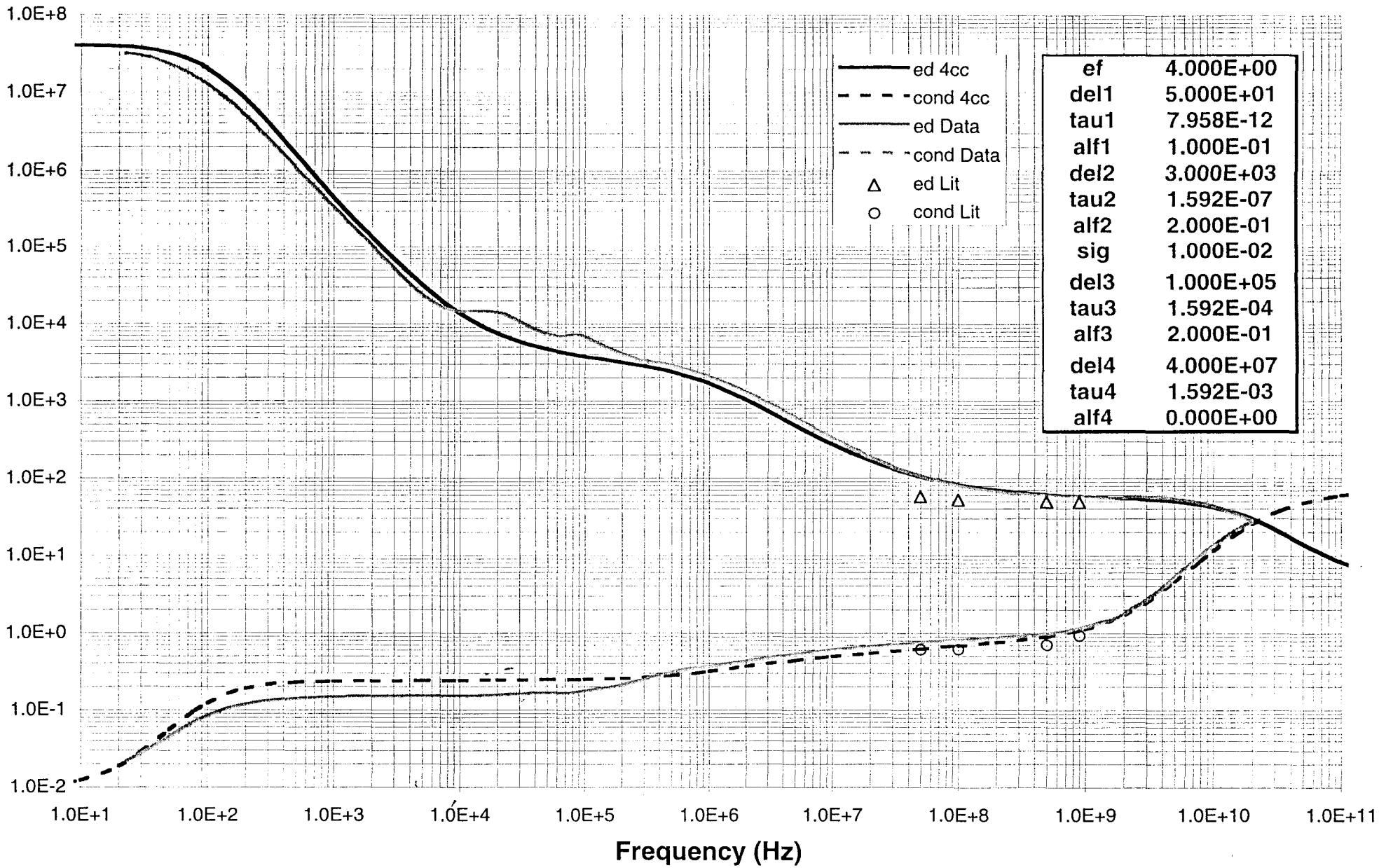
Cerebro Spinal Fluid



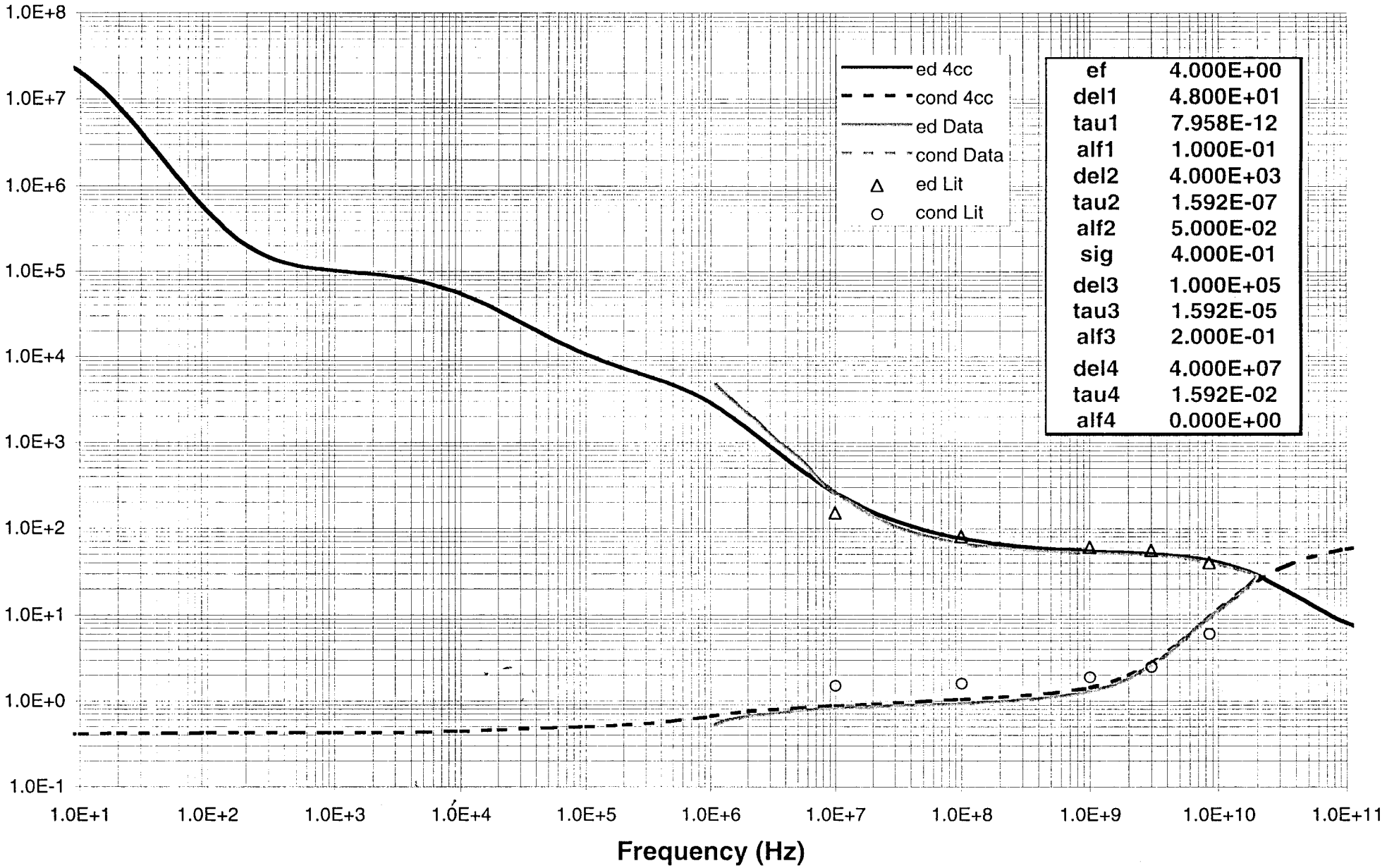
Cervix


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 4.500E+01
tau1 7.958E-12
alf1 1.000E-01
del2 2.000E+02
tau2 1.592E-08
alf2 1.000E-01
sig 3.000E-01
del3 1.500E+05
tau3 1.061E-04
alf3 1.800E-01
del4 4.000E+07
tau4 1.592E-03
alf4 0.000E+00

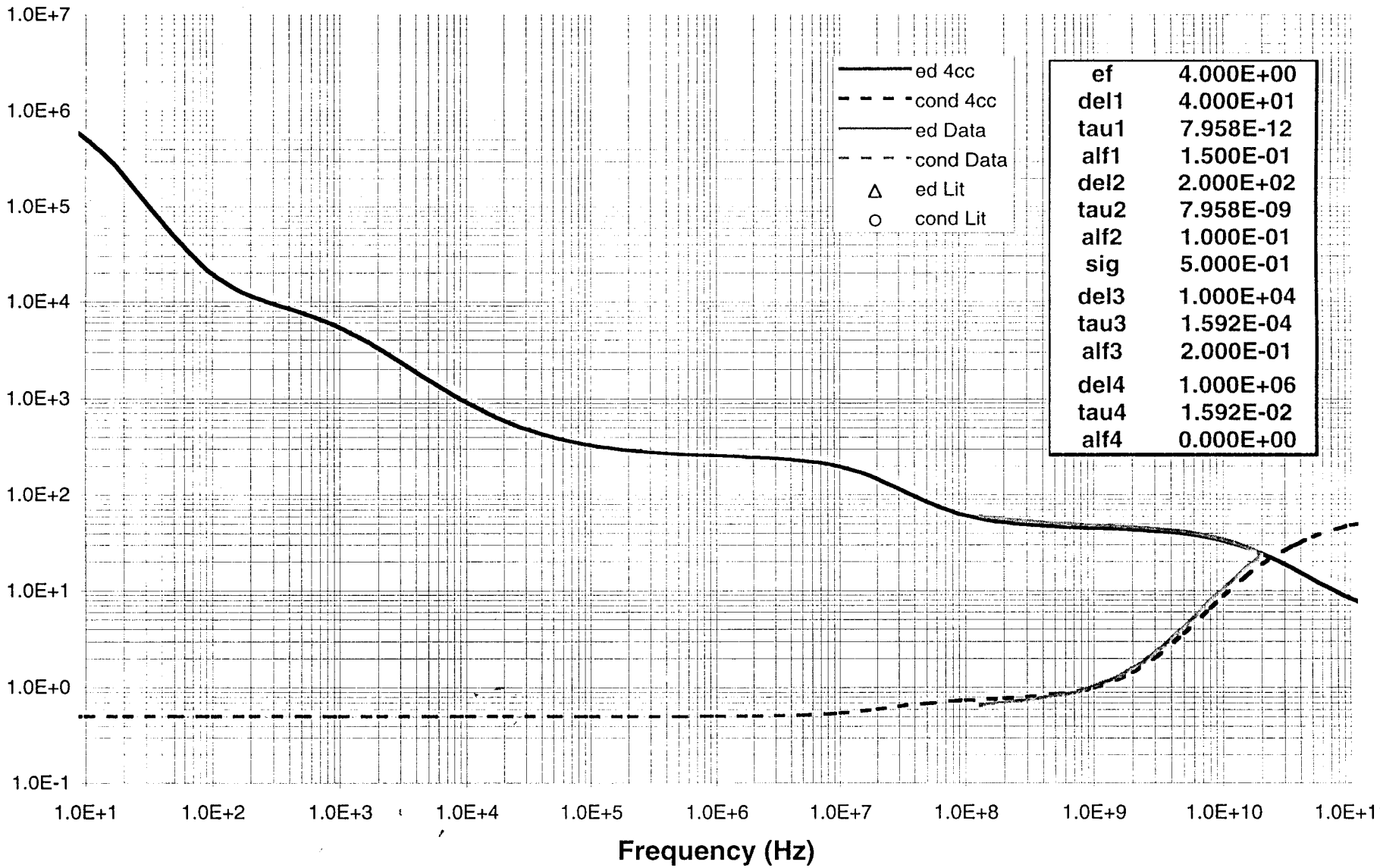
Colon


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 5.000E+01
tau1 7.958E-12
alf1 1.000E-01
del2 3.000E+03
tau2 1.592E-07
alf2 2.000E-01
sig 1.000E-02
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-03
alf4 0.000E+00

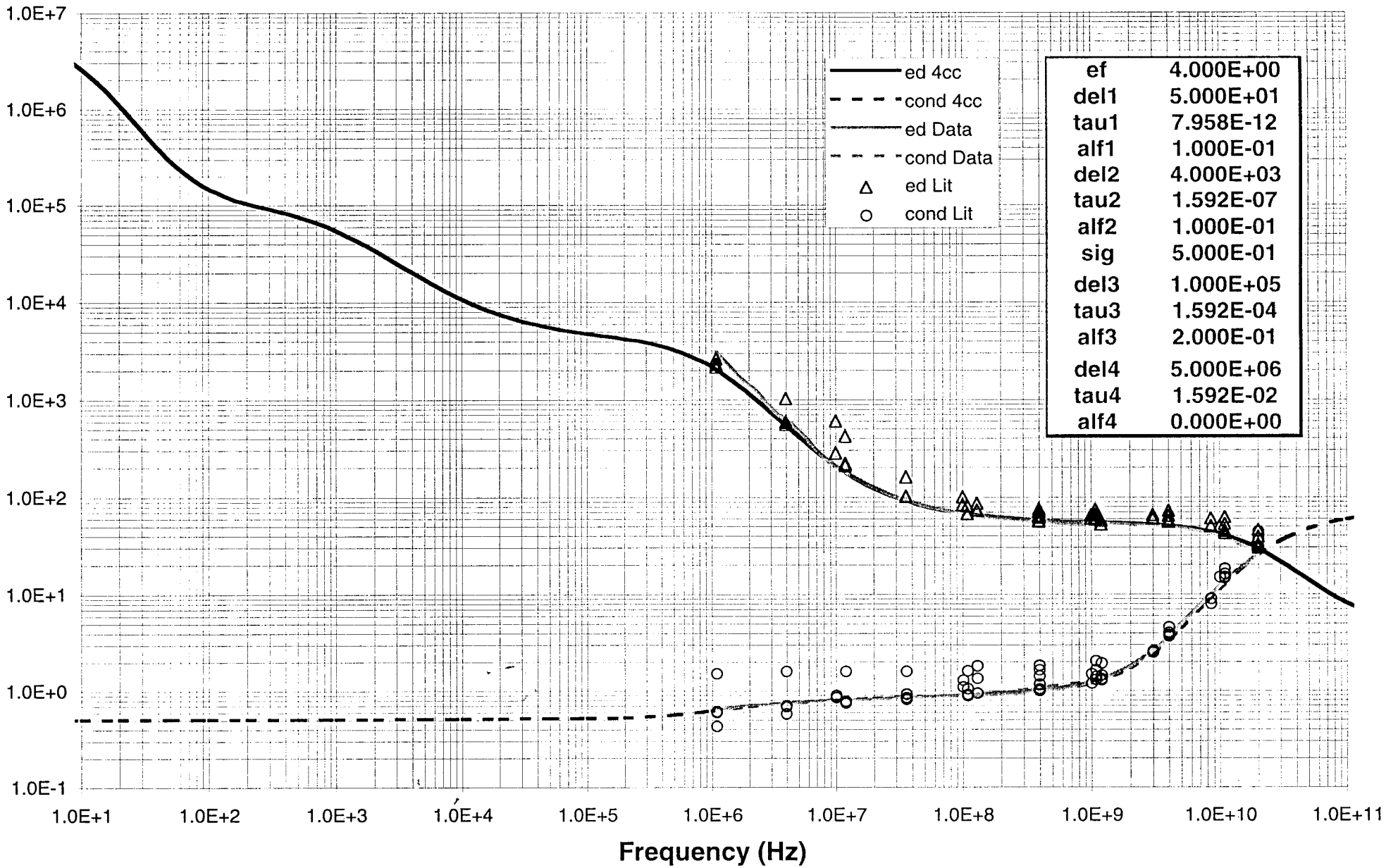
Cornea


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.800E+01
tau1 7.958E-12
alf1 1.000E-01
del2 4.000E+03
tau2 1.592E-07
alf2 5.000E-02
sig 4.000E-01
del3 1.000E+05
tau3 1.592E-05
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

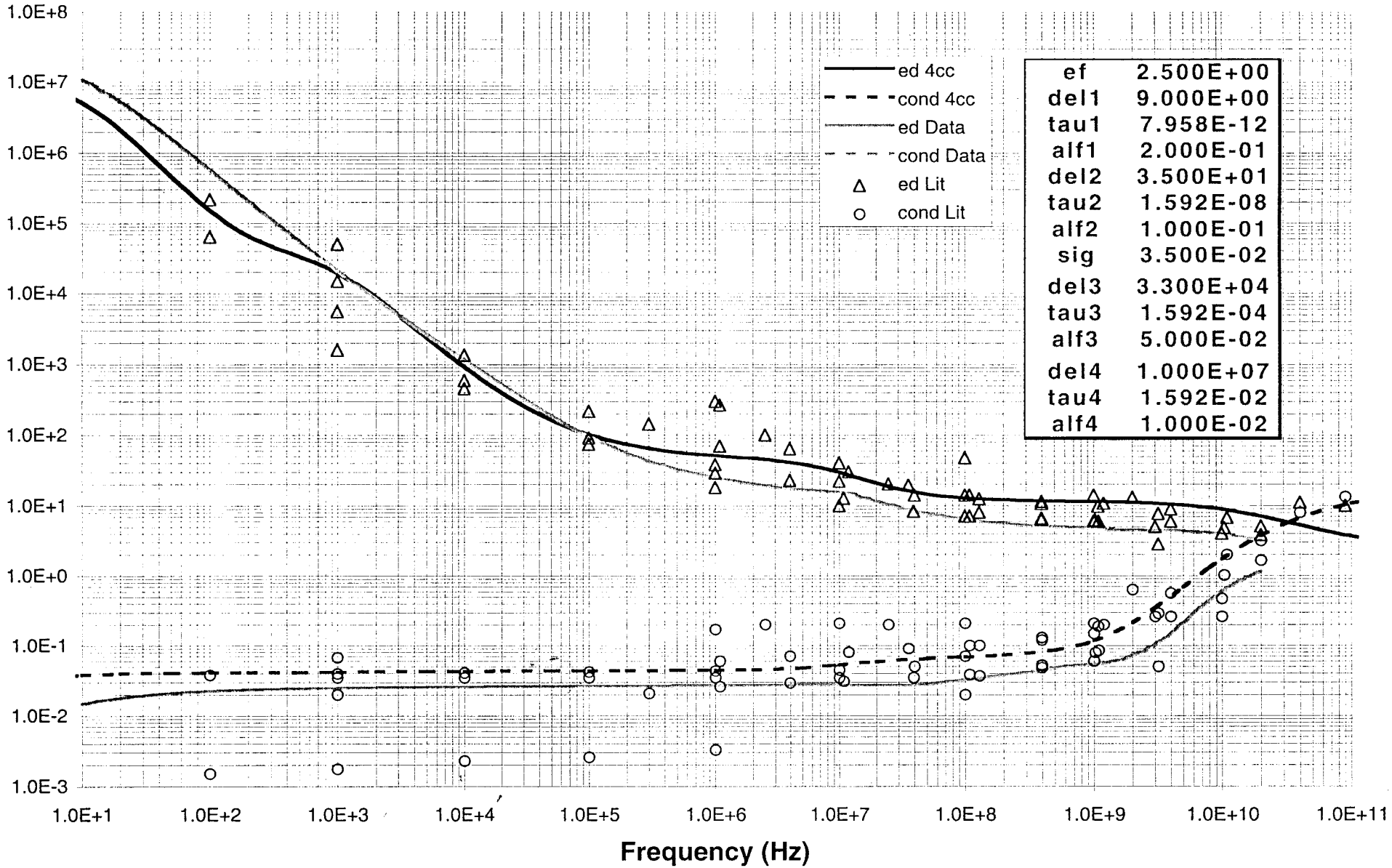
Dura


1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.000E+01
tau1 7.958E-12
alf1 1.500E-01
del2 2.000E+02
tau2 7.958E-09
alf2 1.000E-01
sig 5.000E-01
del3 1.000E+04
tau3 1.592E-04
alf3 2.000E-01
del4 1.000E+06
tau4 1.592E-02
alf4 0.000E+00

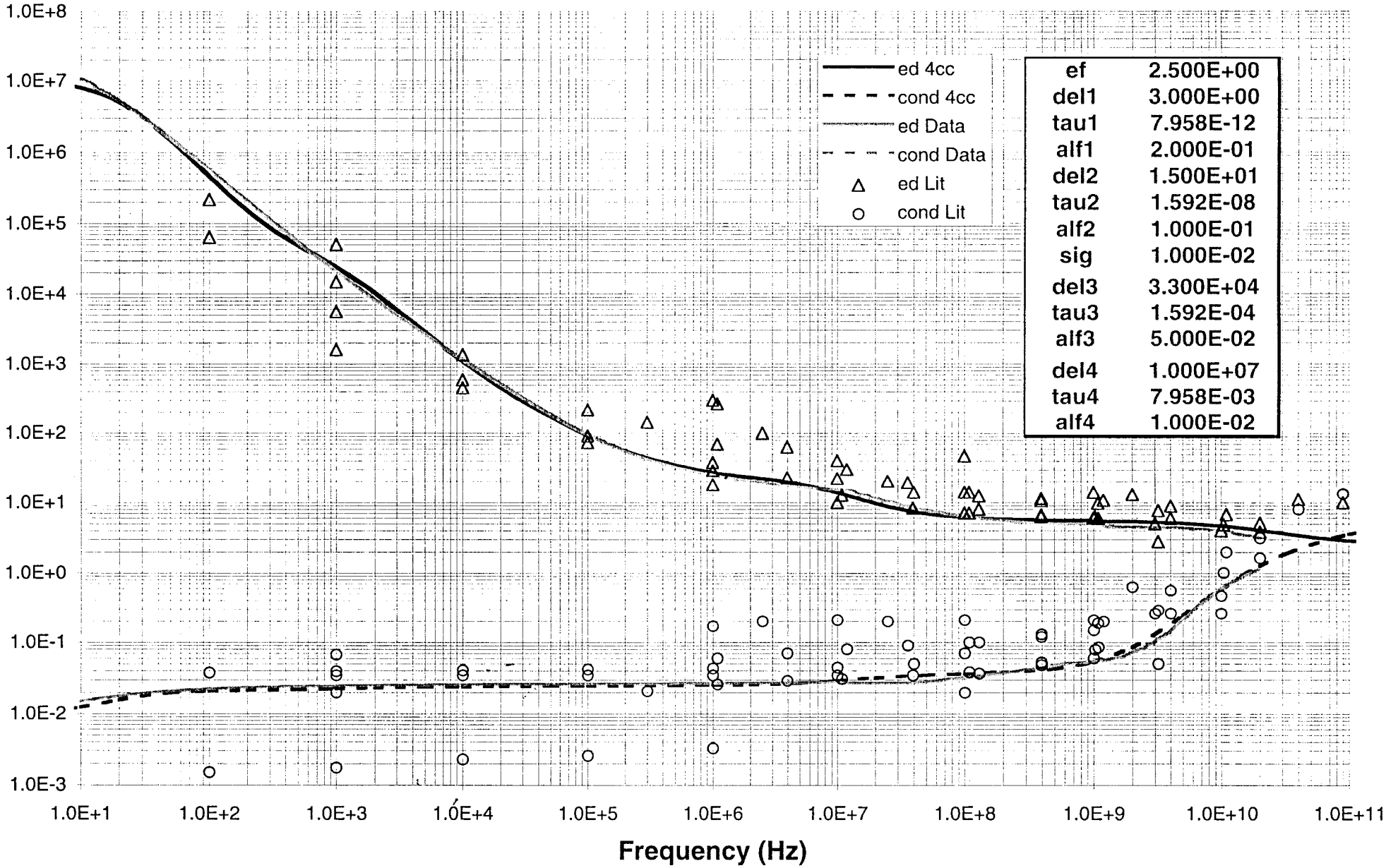
Eye Tissues (Sclera)



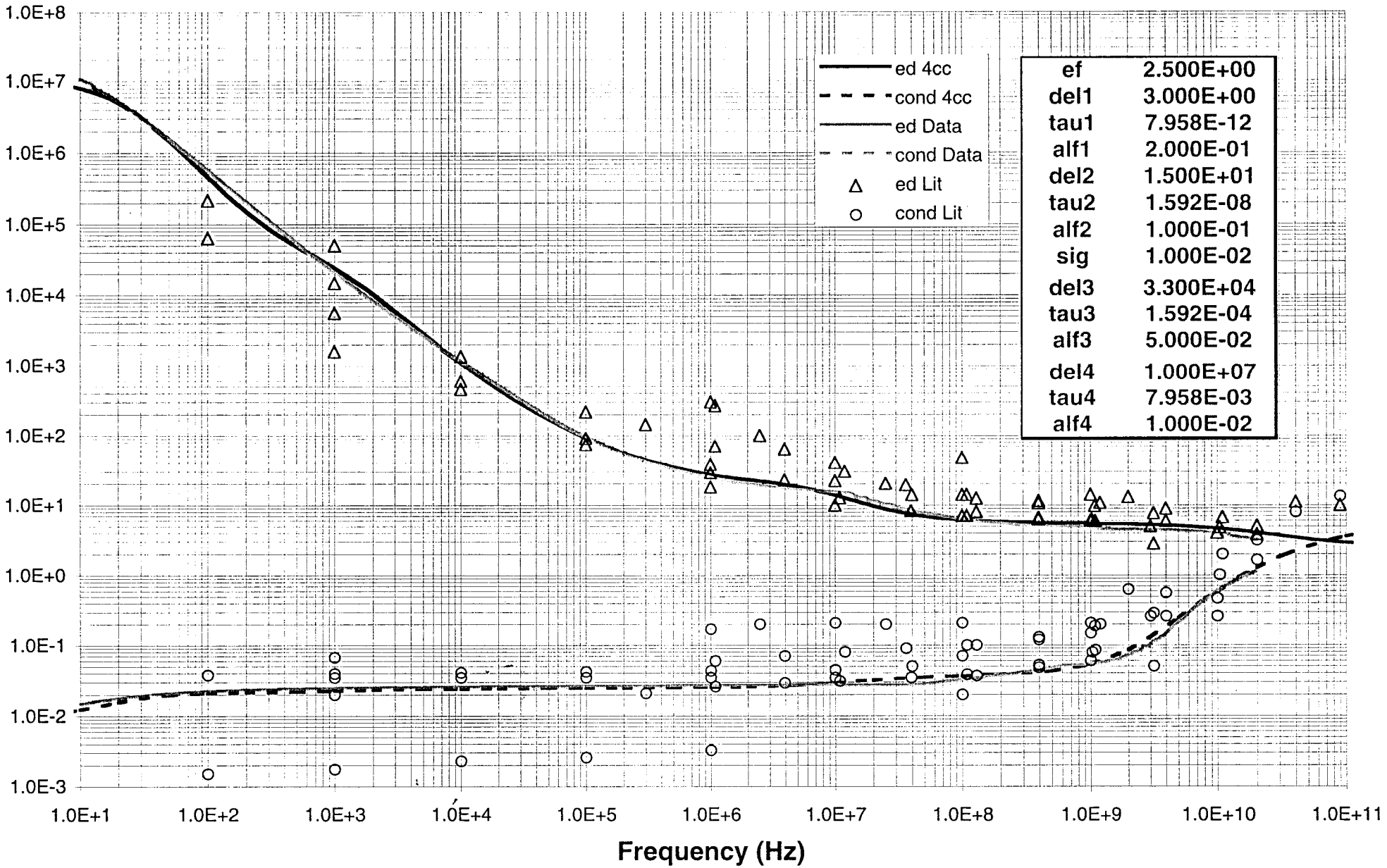
Fat (Average Infiltrated)



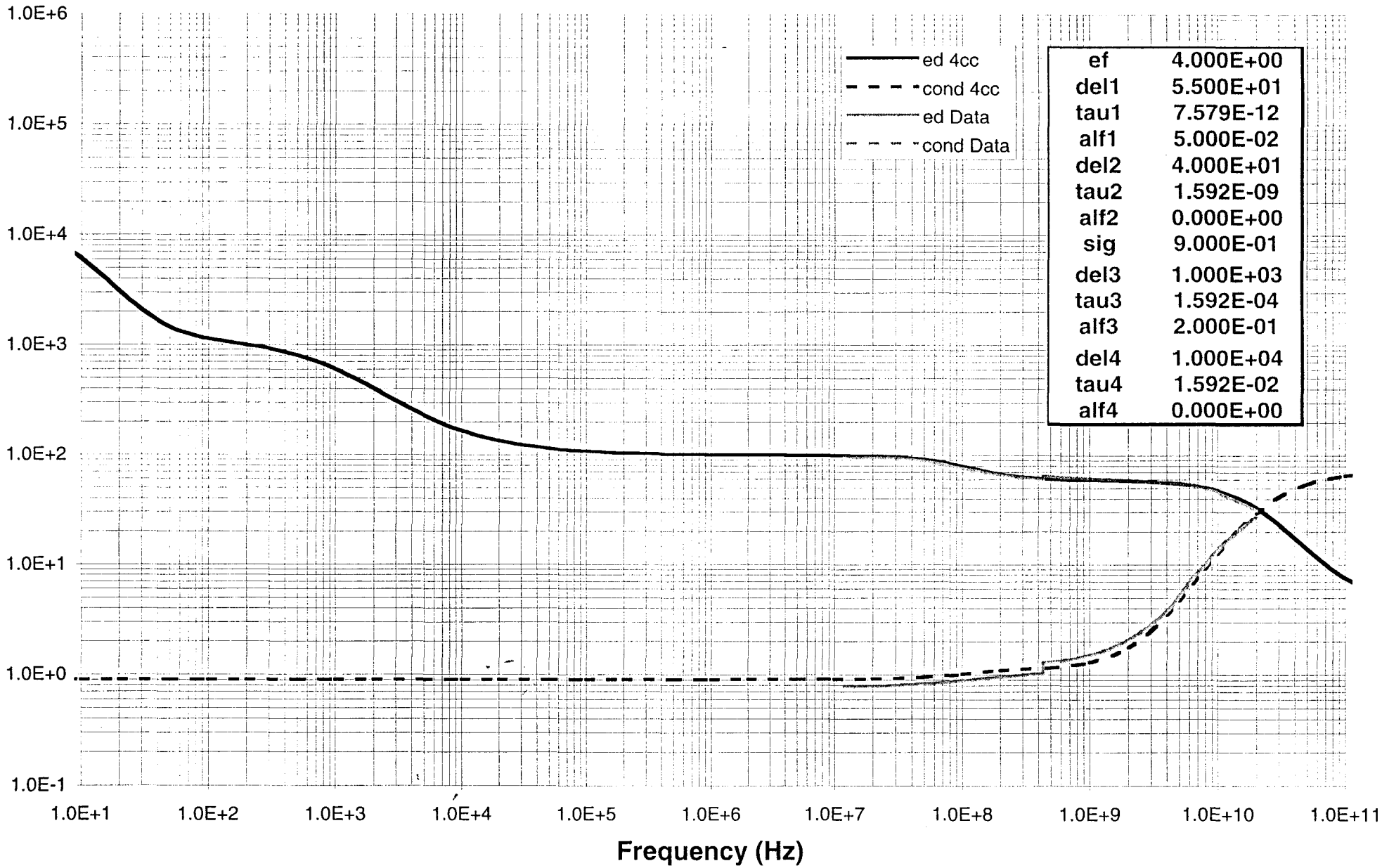
Fat (Not Infiltrated)



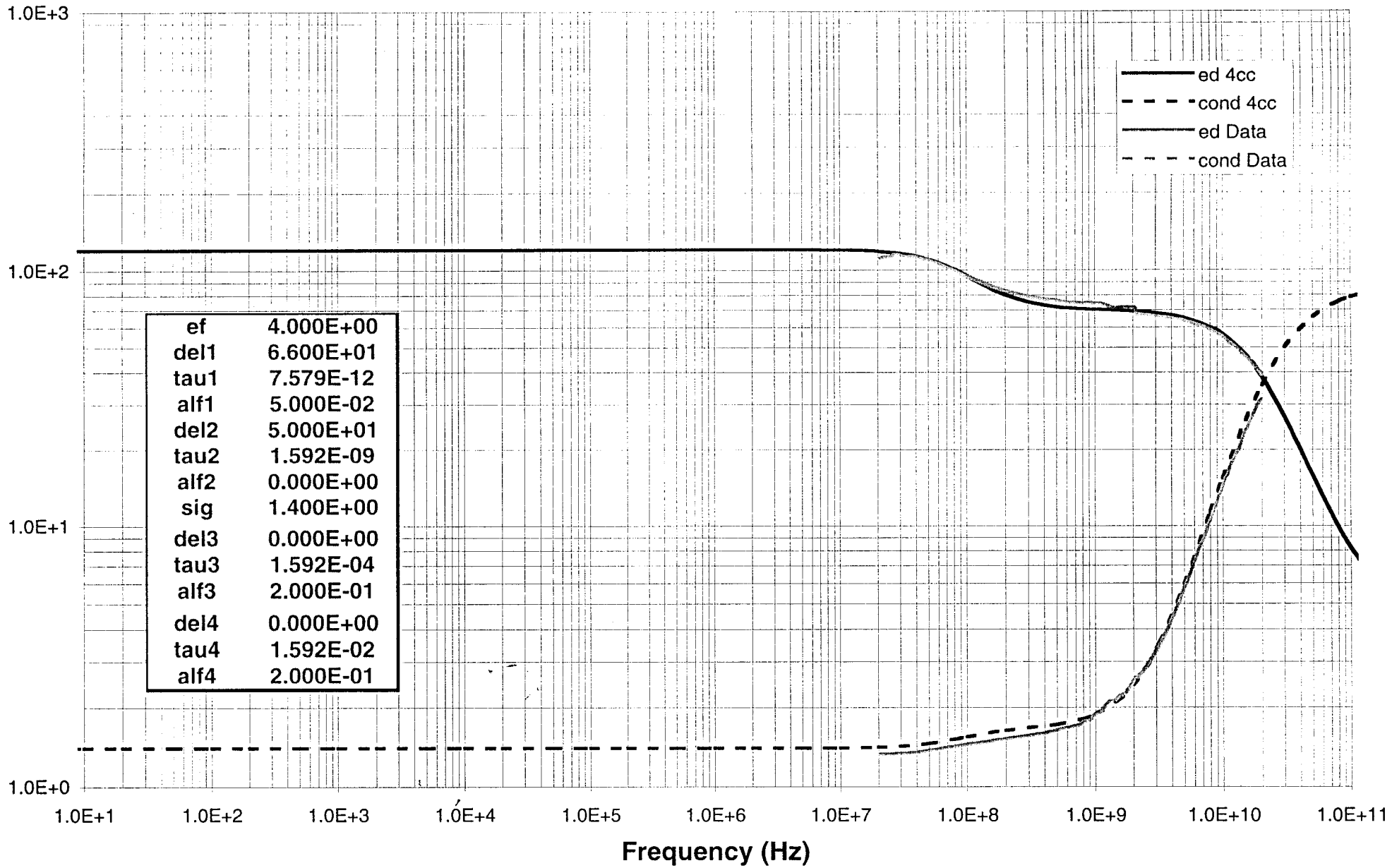
Fat


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 2.500E+00
del1 3.000E+00
tau1 7.958E-12
alf1 2.000E-01
del2 1.500E+01
tau2 1.592E-08
alf2 1.000E-01
sig 1.000E-02
del3 3.300E+04
tau3 1.592E-04
alf3 5.000E-02
del4 1.000E+07
tau4 7.958E-03
alf4 1.000E-02

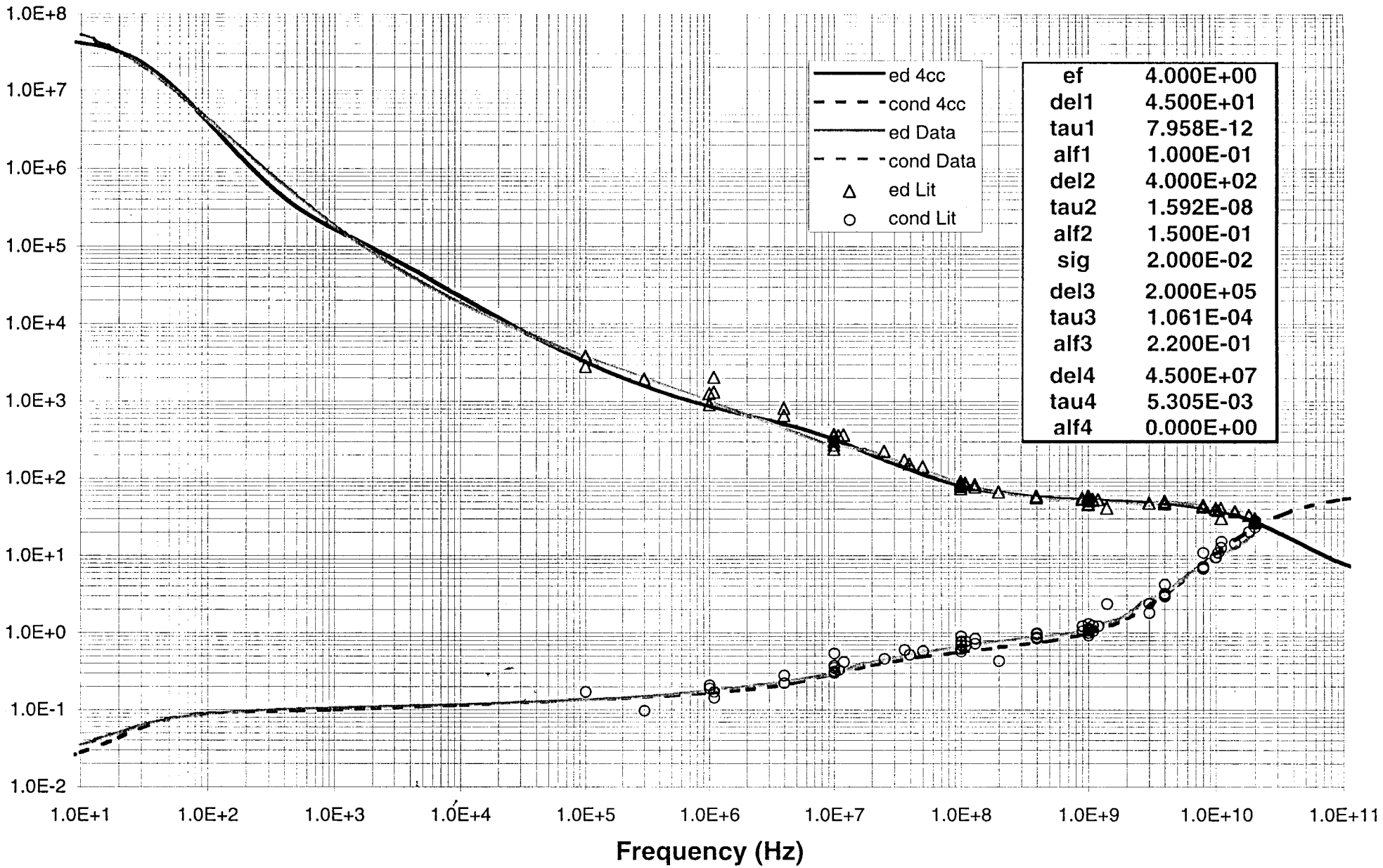
Gall Bladder



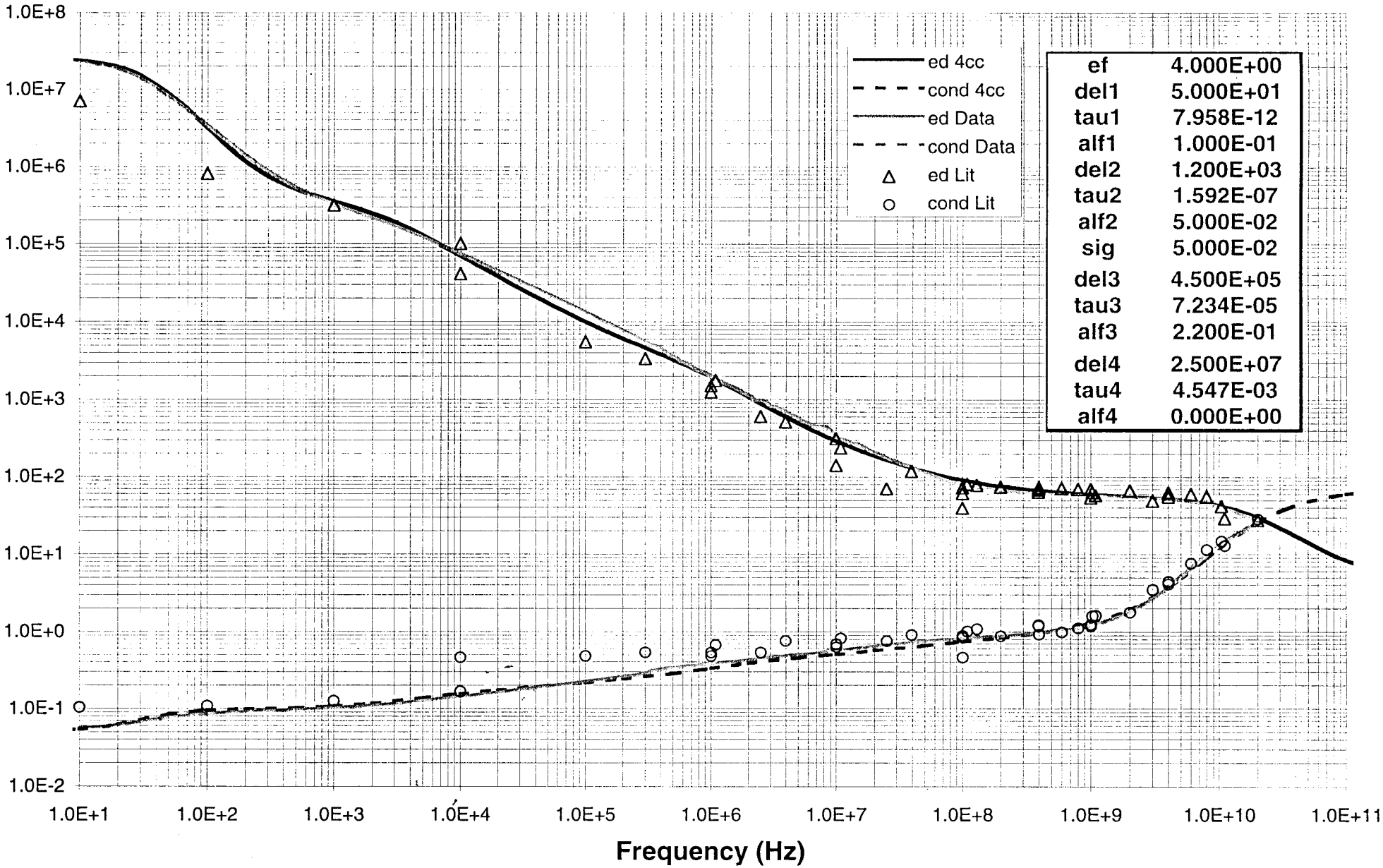
Gall Bladder Bile



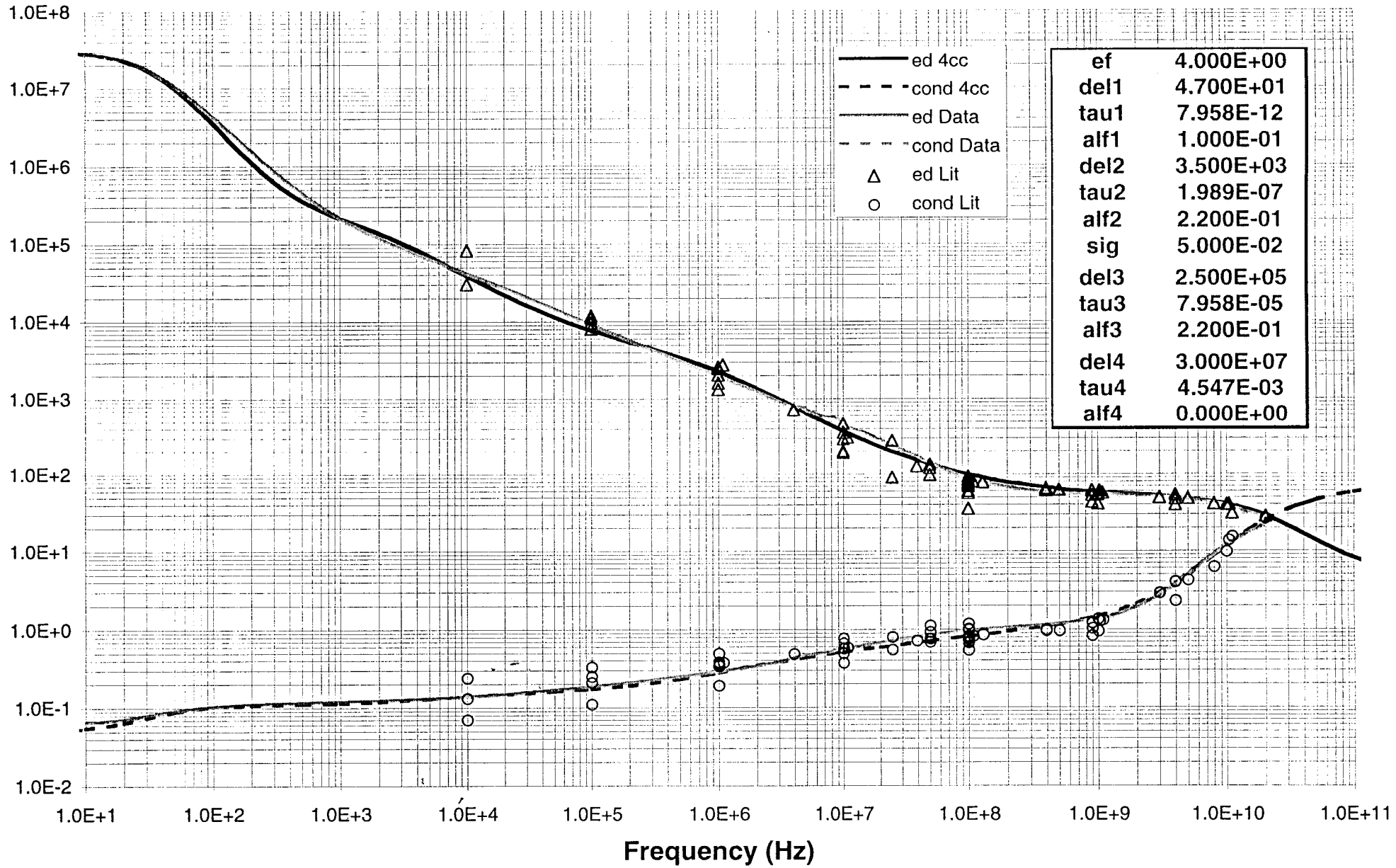
Grey Matter


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.500E+01
tau1 7.958E-12
alf1 1.000E-01
del2 4.000E+02
tau2 1.592E-08
alf2 1.500E-01
sig 2.000E-02
del3 2.000E+05
tau3 1.061E-04
alf3 2.200E-01
del4 4.500E+07
tau4 5.305E-03
alf4 0.000E+00

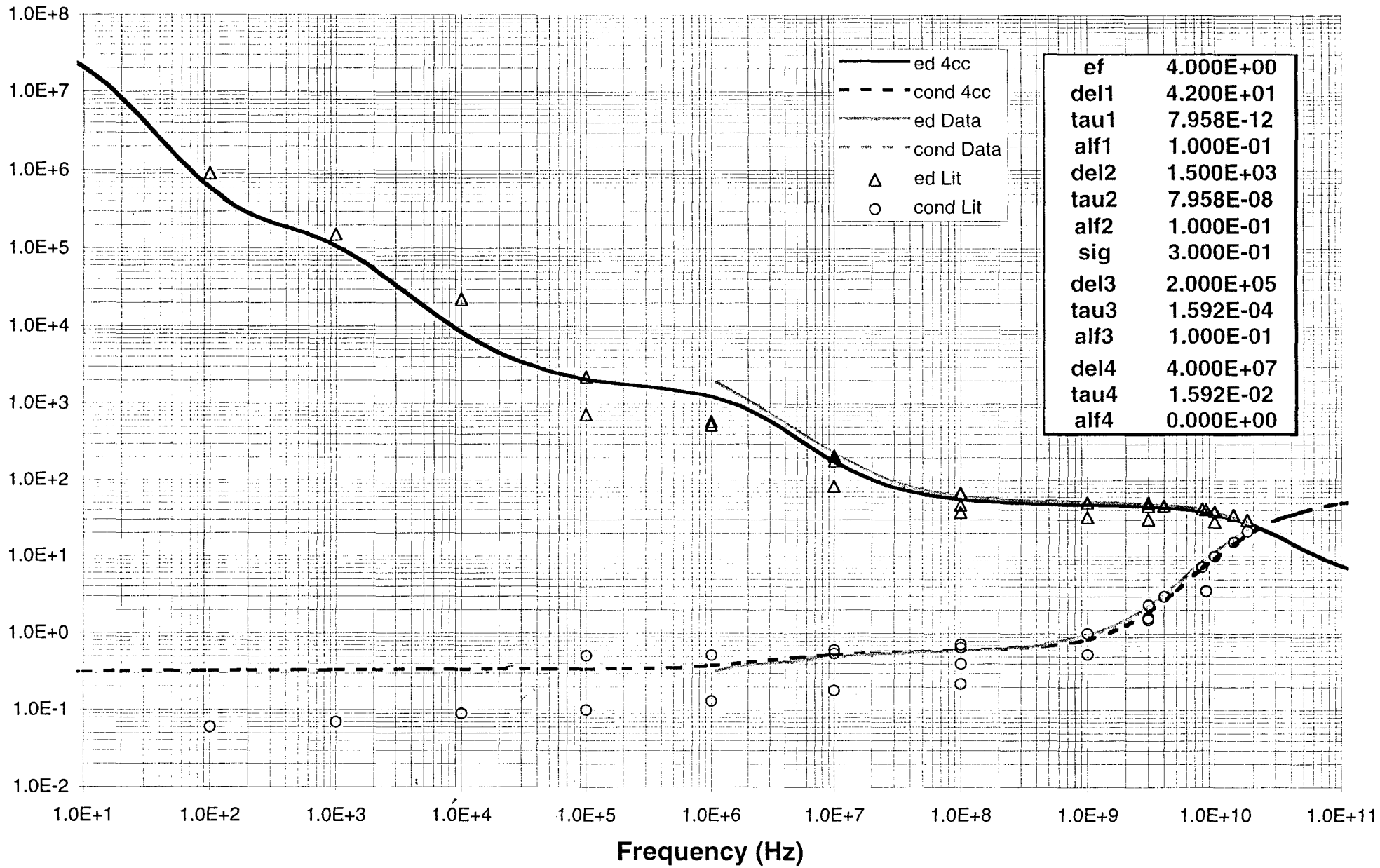
Heart


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 5.000E+01
tau1 7.958E-12
alf1 1.000E-01
del2 1.200E+03
tau2 1.592E-07
alf2 5.000E-02
sig 5.000E-02
del3 4.500E+05
tau3 7.234E-05
alf3 2.200E-01
del4 2.500E+07
tau4 4.547E-03
alf4 0.000E+00

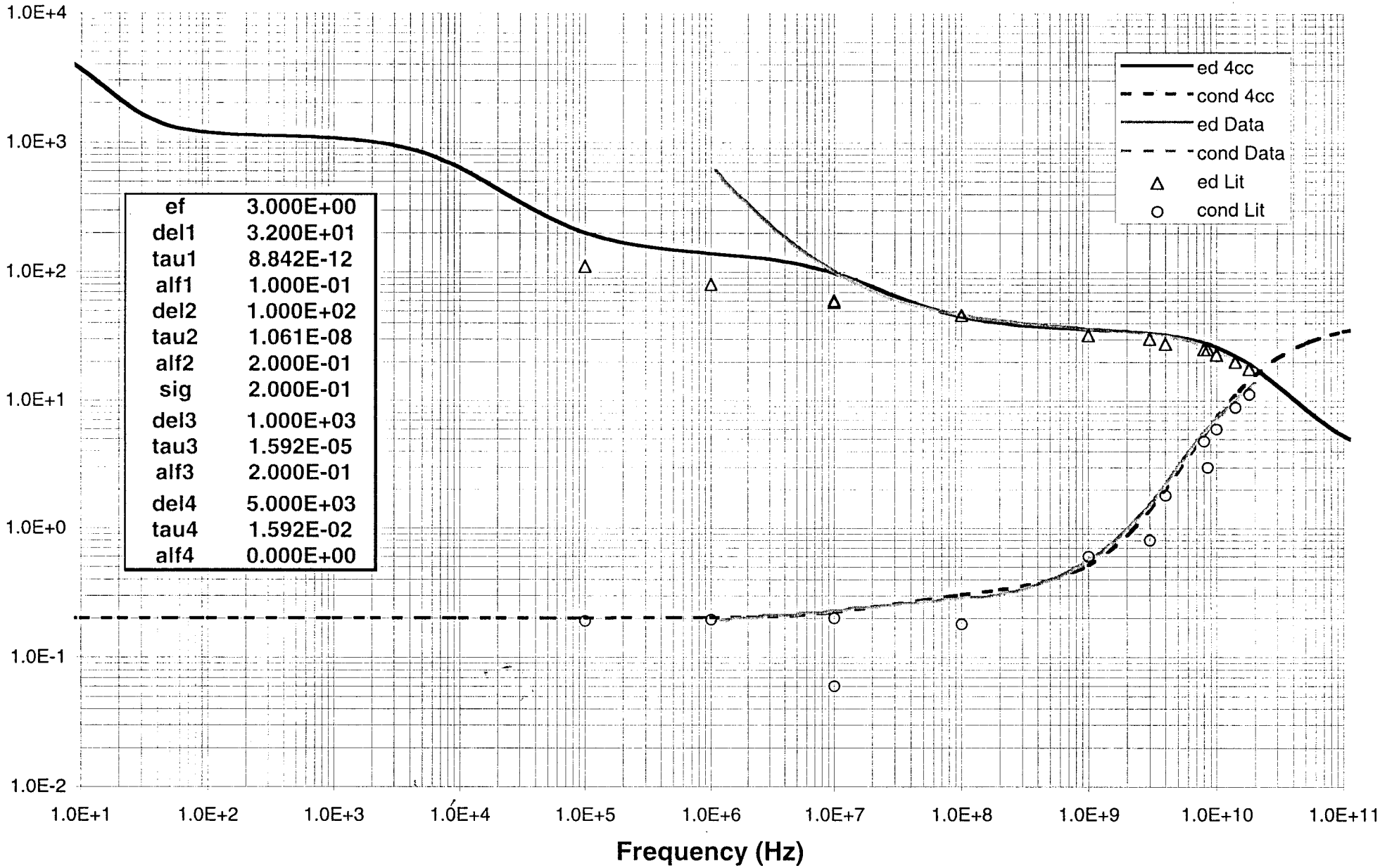
Kidney


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.700E+01
tau1 7.958E-12
alf1 1.000E-01
del2 3.500E+03
tau2 1.989E-07
alf2 2.200E-01
sig 5.000E-02
del3 2.500E+05
tau3 7.958E-05
alf3 2.200E-01
del4 3.000E+07
tau4 4.547E-03
alf4 0.000E+00

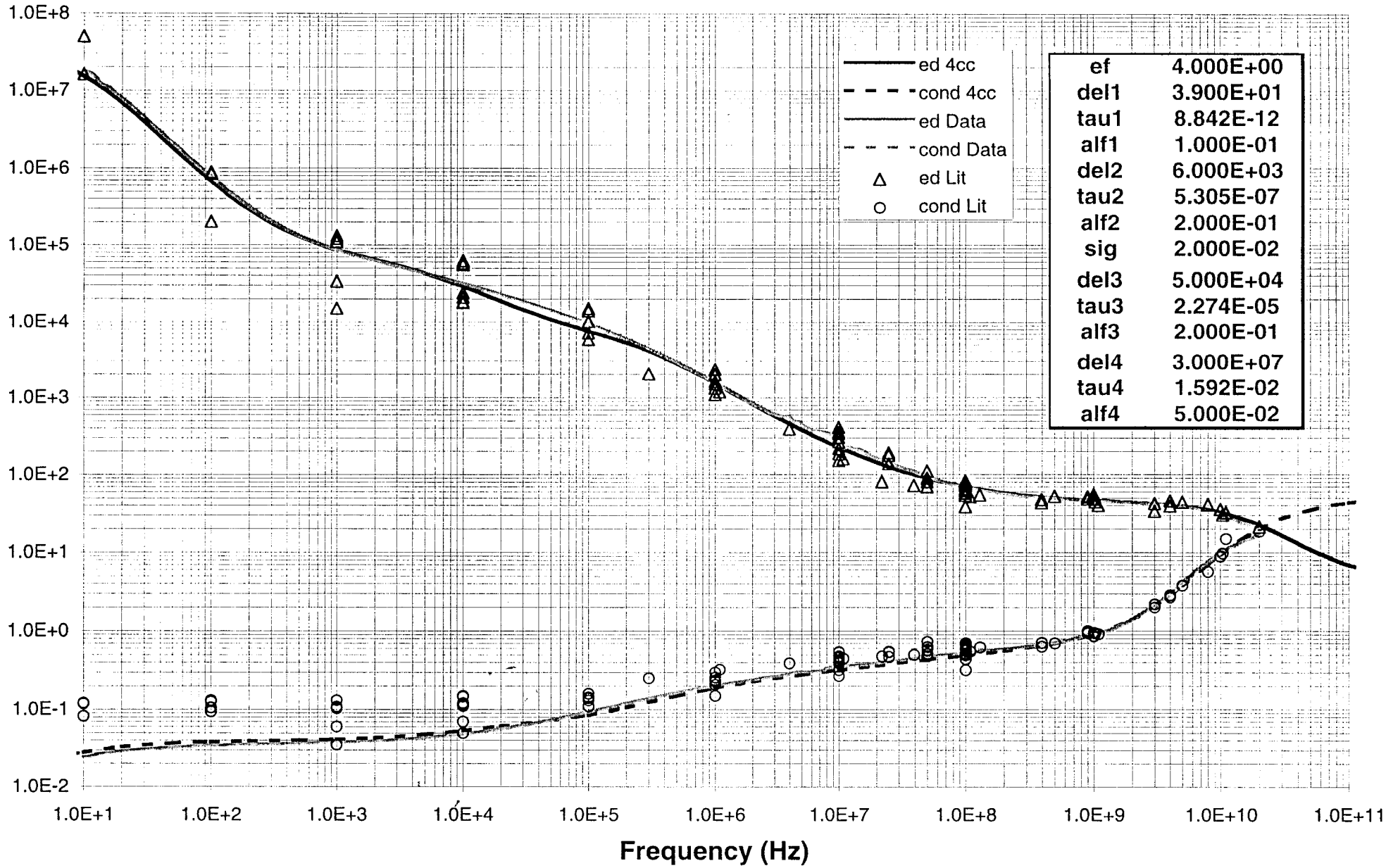
Lens Cortex


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.200E+01
tau1 7.958E-12
alf1 1.000E-01
del2 1.500E+03
tau2 7.958E-08
alf2 1.000E-01
sig 3.000E-01
del3 2.000E+05
tau3 1.592E-04
alf3 1.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

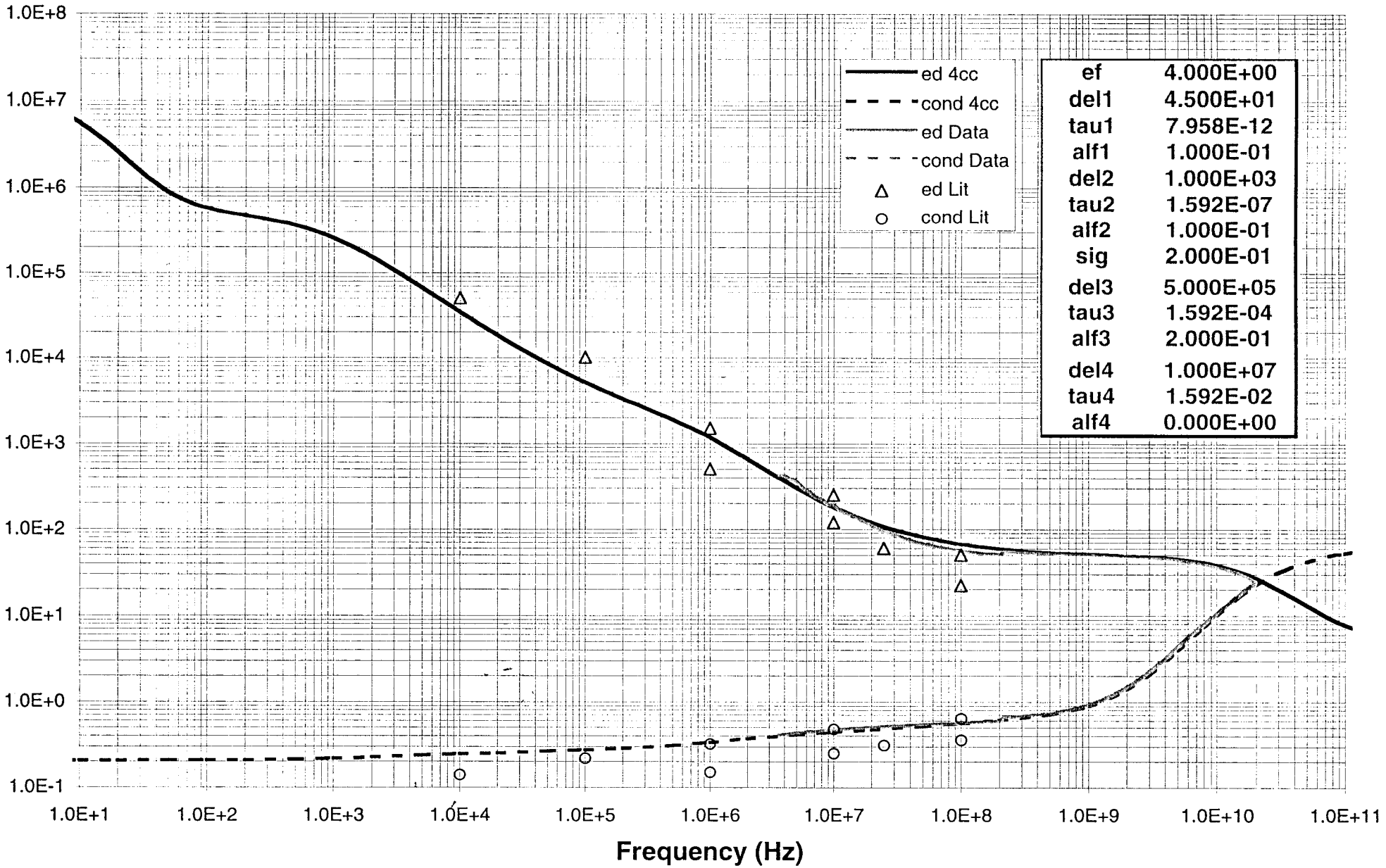
Lens Nucleus



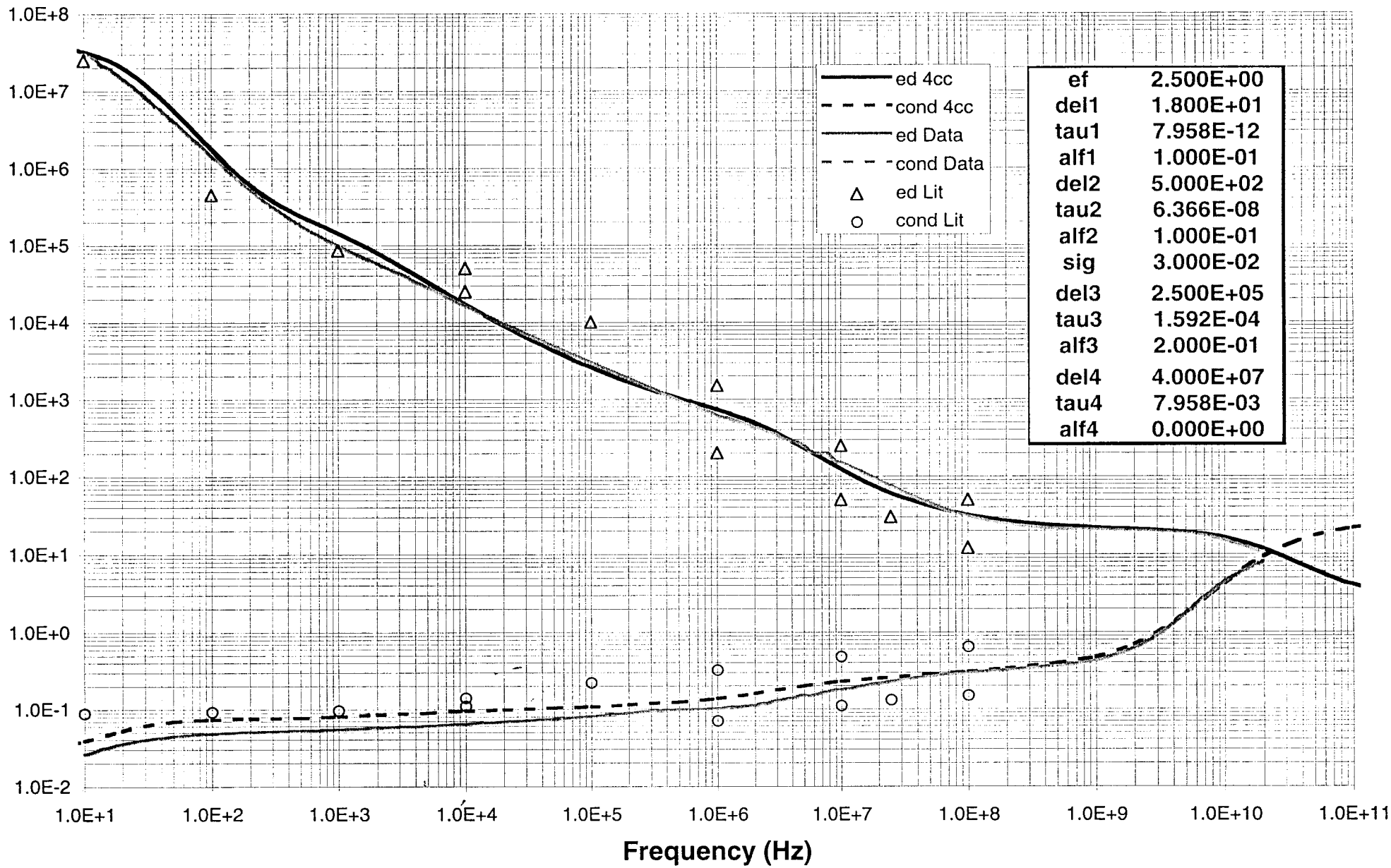
Liver


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 3.900E+01
tau1 8.842E-12
alf1 1.000E-01
del2 6.000E+03
tau2 5.305E-07
alf2 2.000E-01
sig 2.000E-02
del3 5.000E+04
tau3 2.274E-05
alf3 2.000E-01
del4 3.000E+07
tau4 1.592E-02
alf4 5.000E-02

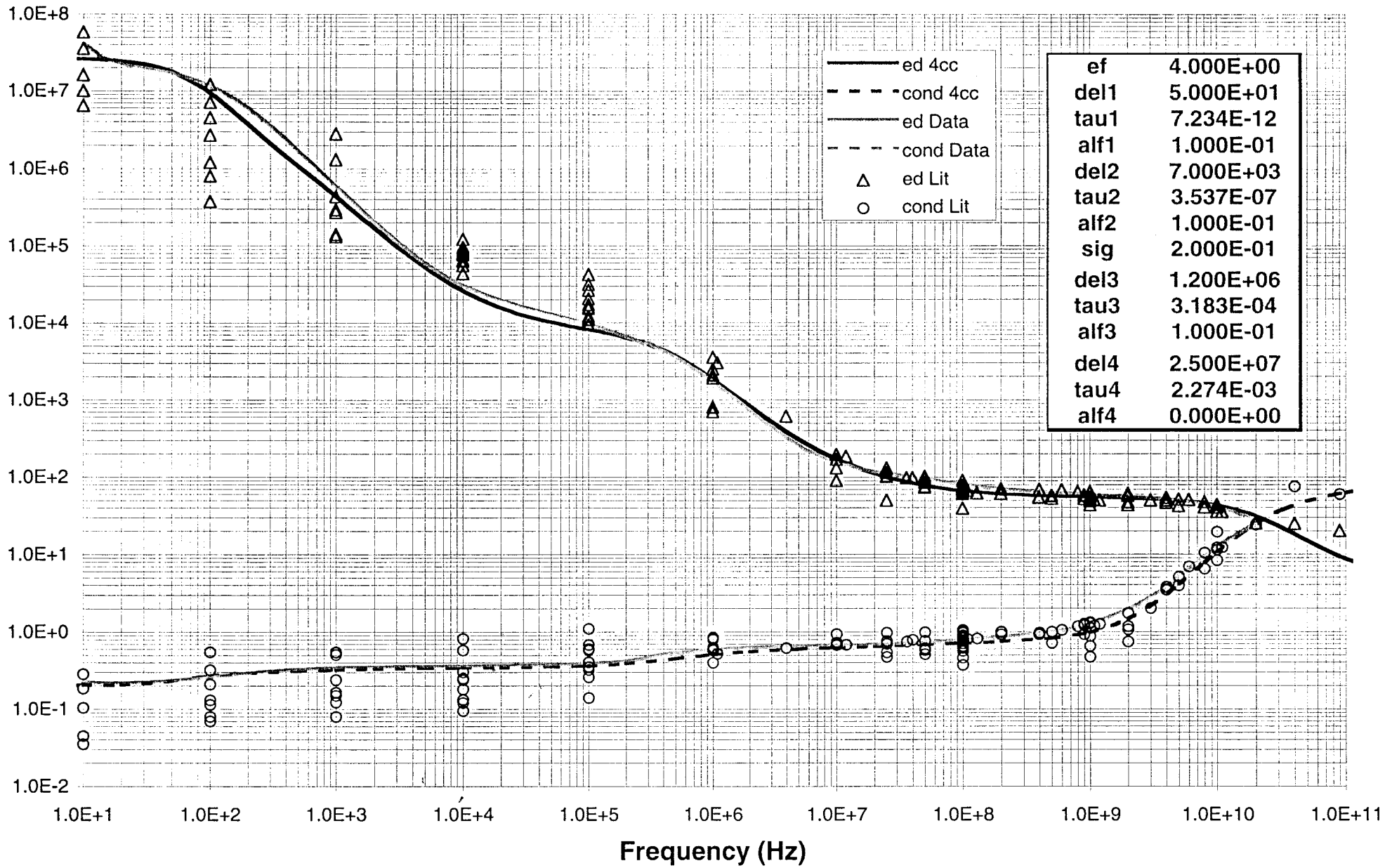
Lung Deflated



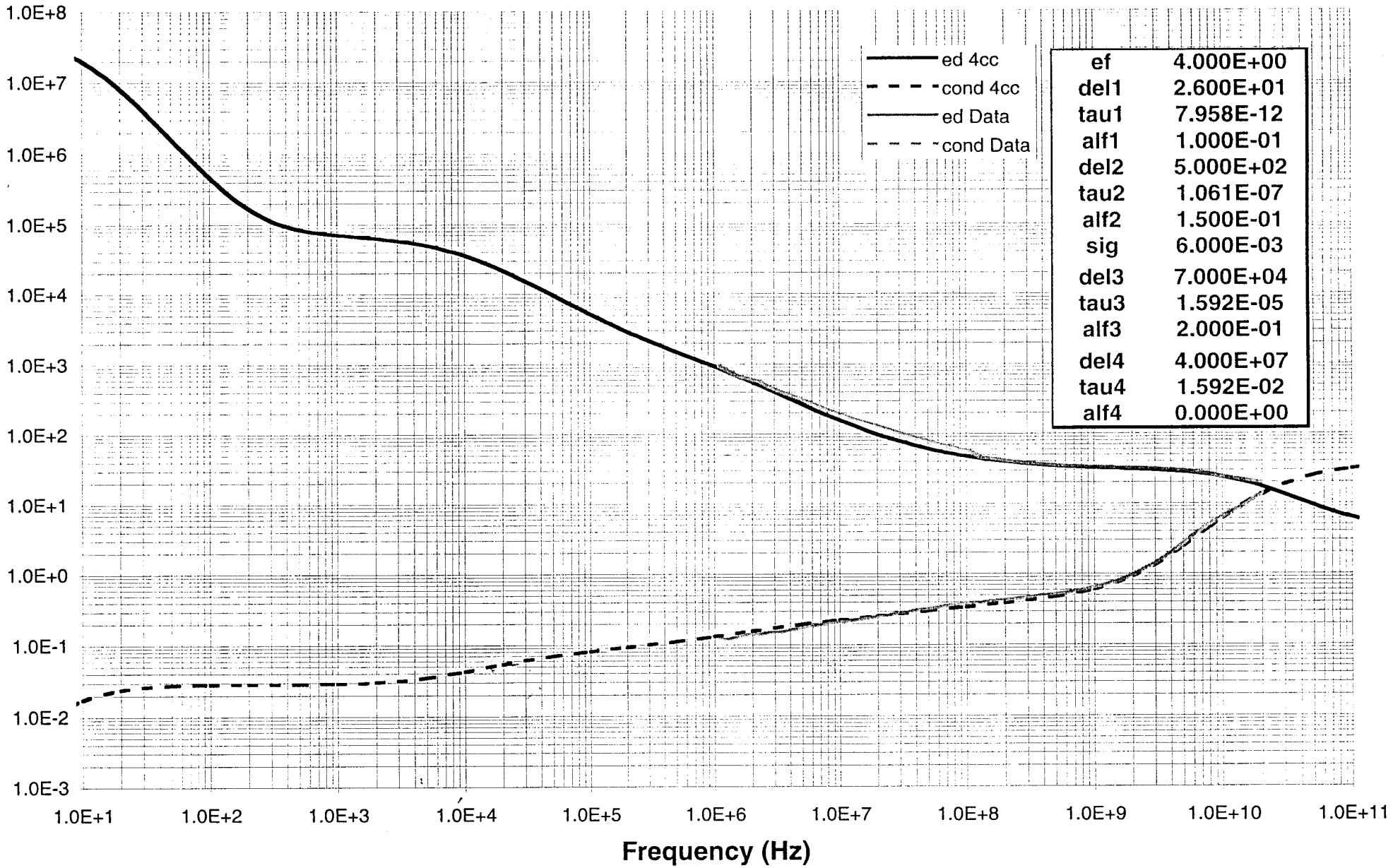
Lung Inflated



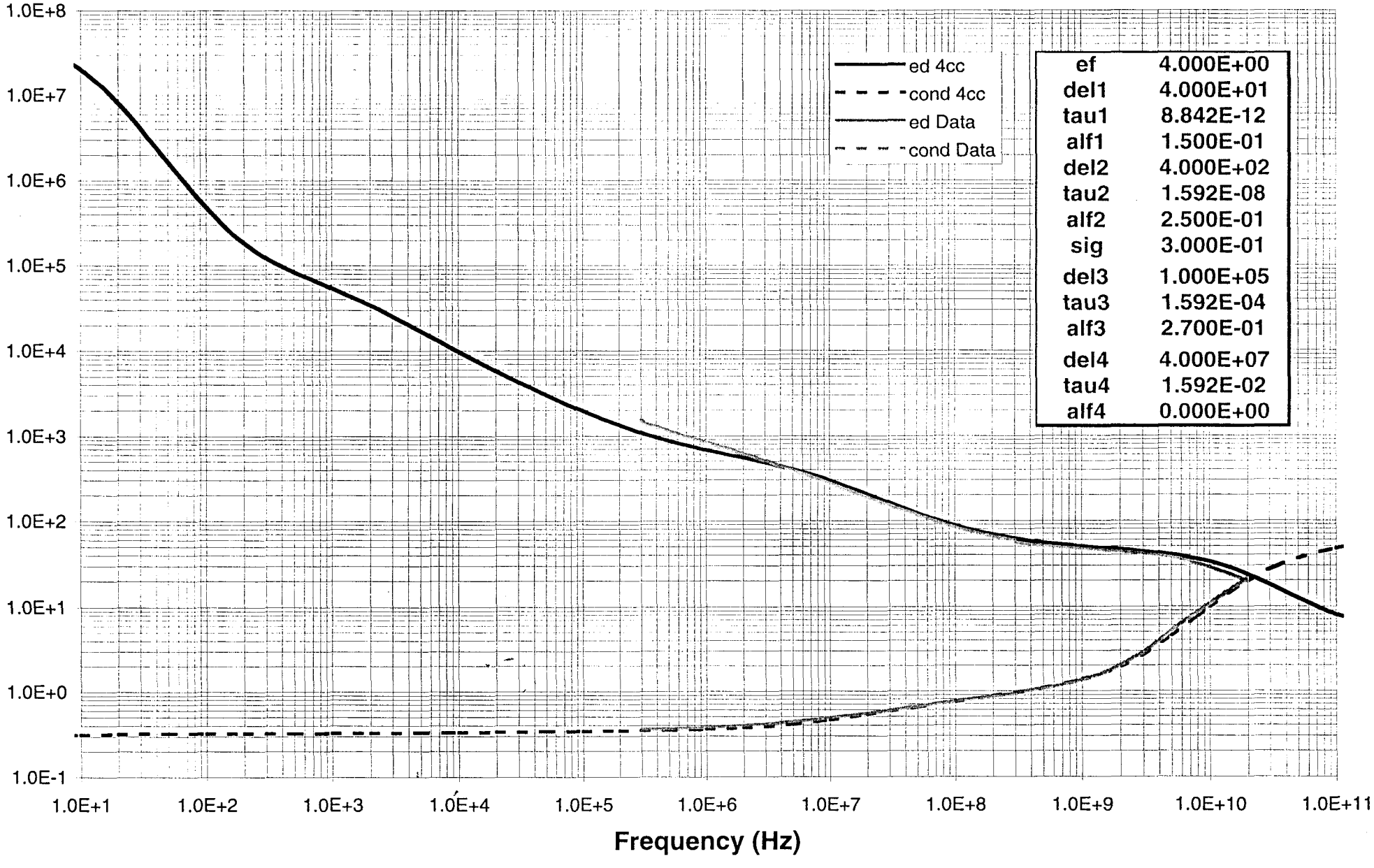
Muscle


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 5.000E+01
tau1 7.234E-12
alf1 1.000E-01
del2 7.000E+03
tau2 3.537E-07
alf2 1.000E-01
sig 2.000E-01
del3 1.200E+06
tau3 3.183E-04
alf3 1.000E-01
del4 2.500E+07
tau4 2.274E-03
alf4 0.000E+00

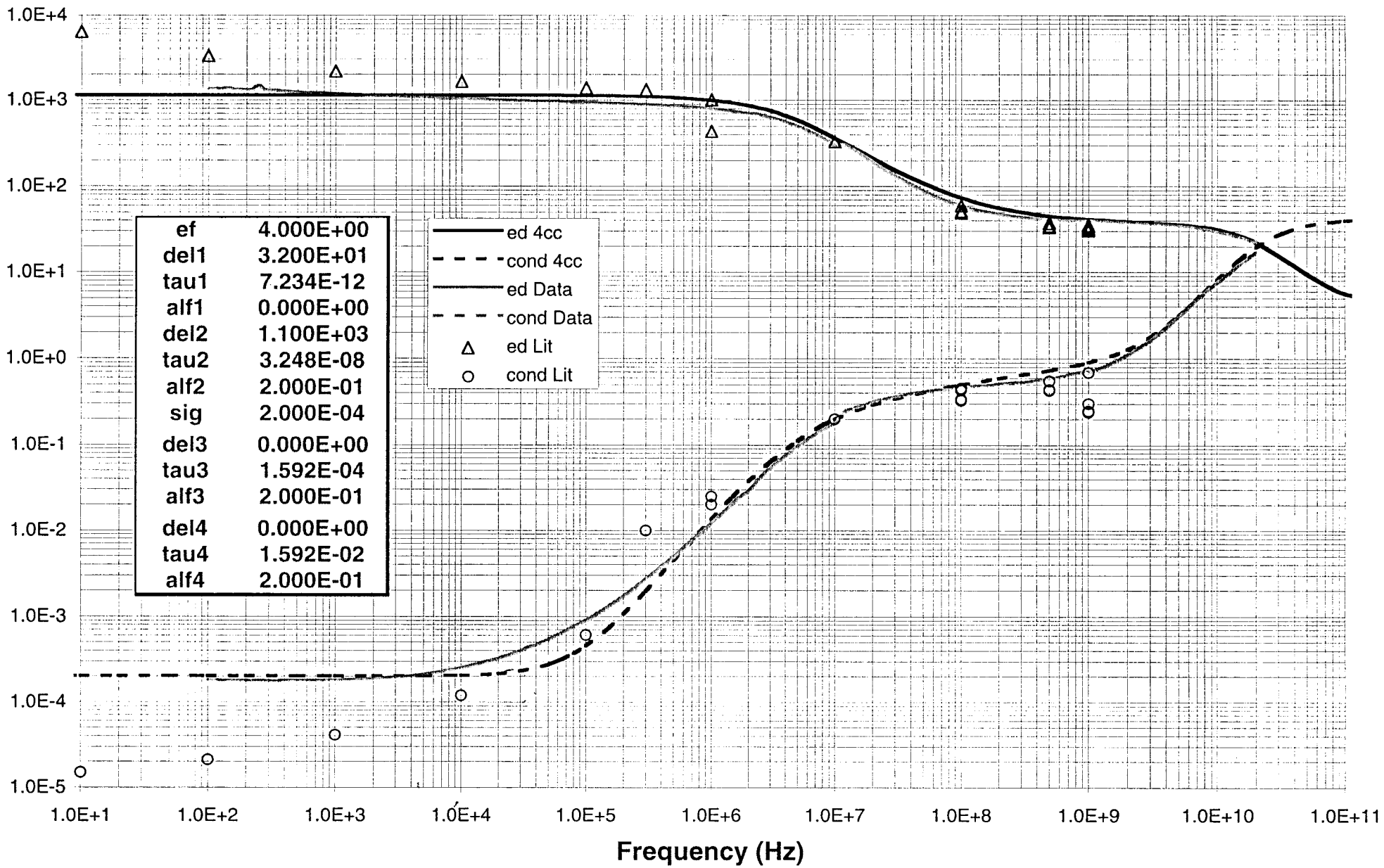
Nerve


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 2.600E+01
tau1 7.958E-12
alf1 1.000E-01
del2 5.000E+02
tau2 1.061E-07
alf2 1.500E-01
sig 6.000E-03
del3 7.000E+04
tau3 1.592E-05
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

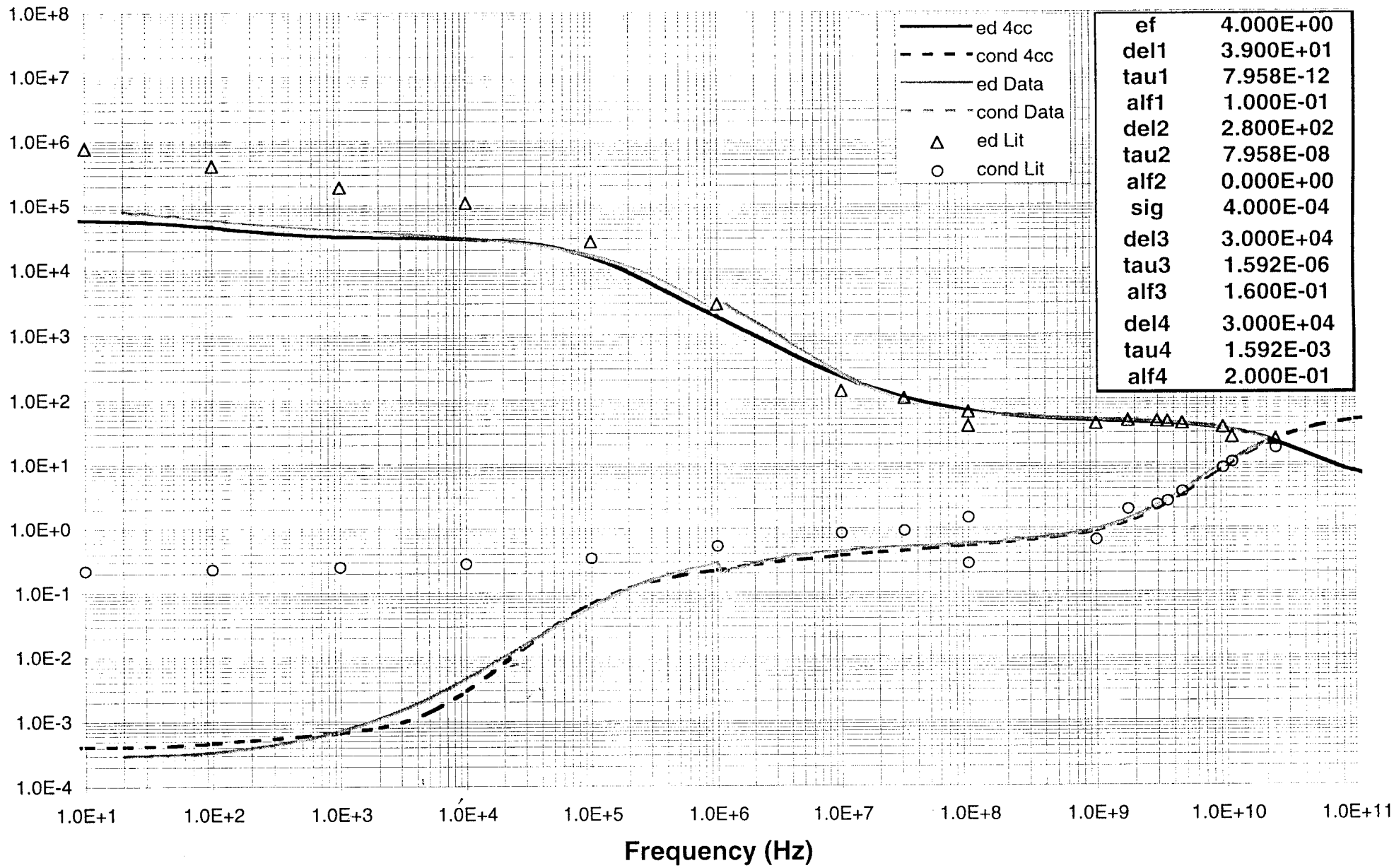
Ovary


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 4.000E+01
tau1 8.842E-12
alf1 1.500E-01
del2 4.000E+02
tau2 1.592E-08
alf2 2.500E-01
sig 3.000E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.700E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

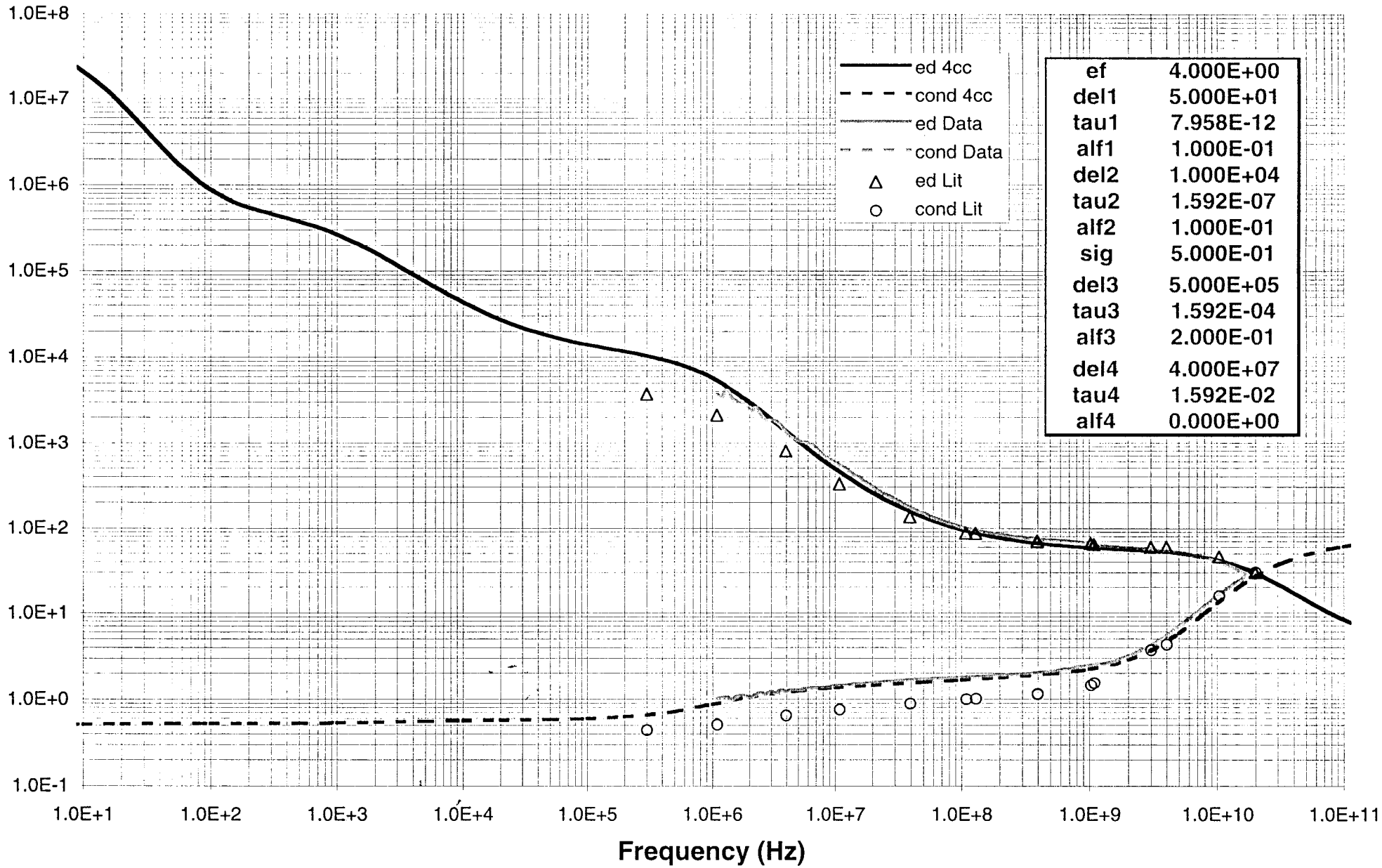
Skin (Dry)


1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E-4
1.0E-5
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ef 4.000E+00
del1 3.200E+01
tau1 7.234E-12
alf1 0.000E+00
del2 1.100E+03
tau2 3.248E-08
alf2 2.000E-01
sig 2.000E-04
del3 0.000E+00
tau3 1.592E-04
alf3 2.000E-01
del4 0.000E+00
tau4 1.592E-02
alf4 2.000E-01
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit

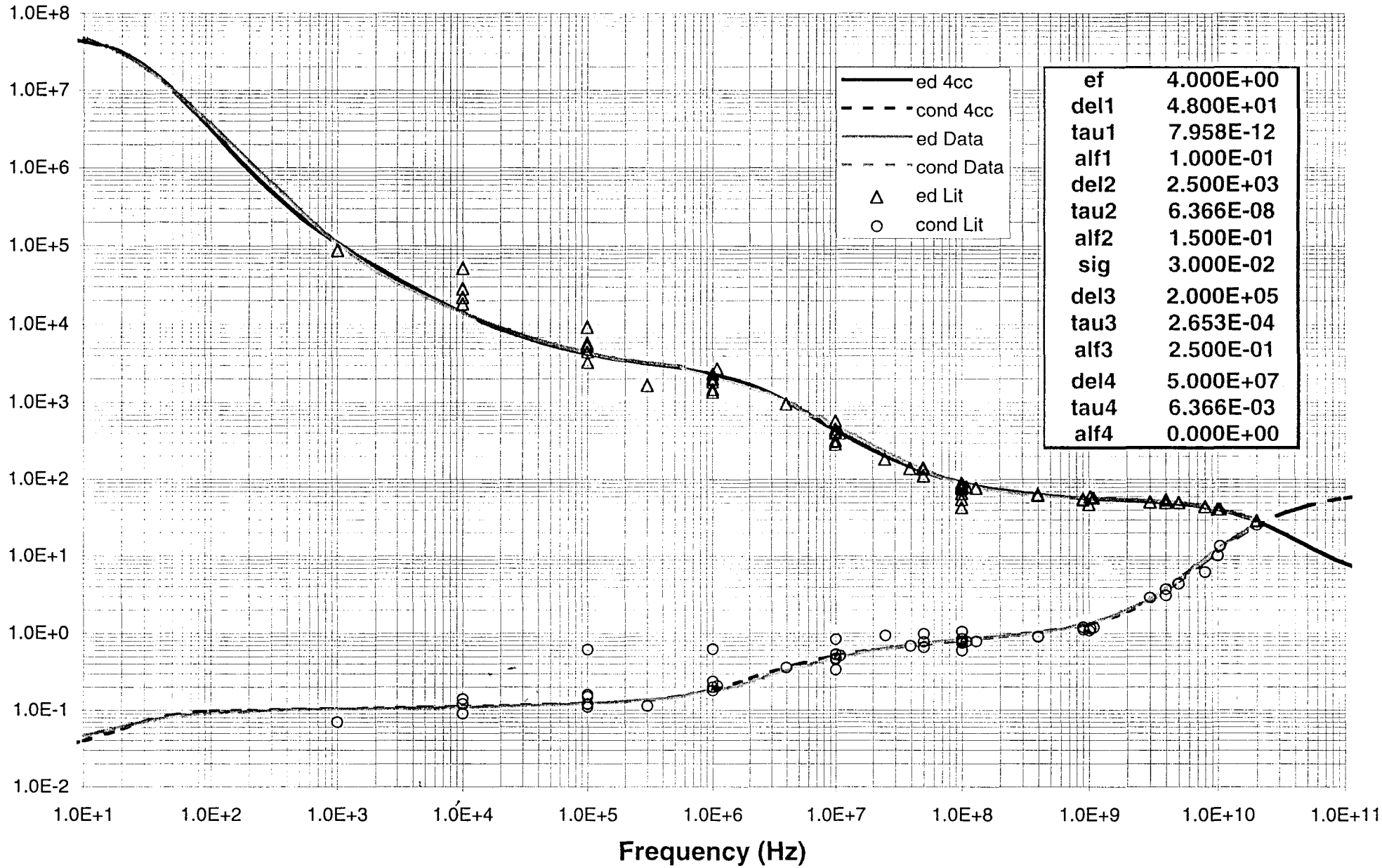
Skin (Wet)


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E-3
1.0E-4
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 3.900E+01
tau1 7.958E-12
alf1 1.000E-01
del2 2.800E+02
tau2 7.958E-08
alf2 0.000E+00
sig 4.000E-04
del3 3.000E+04
tau3 1.592E-06
alf3 1.600E-01
del4 3.000E+04
tau4 1.592E-03
alf4 2.000E-01

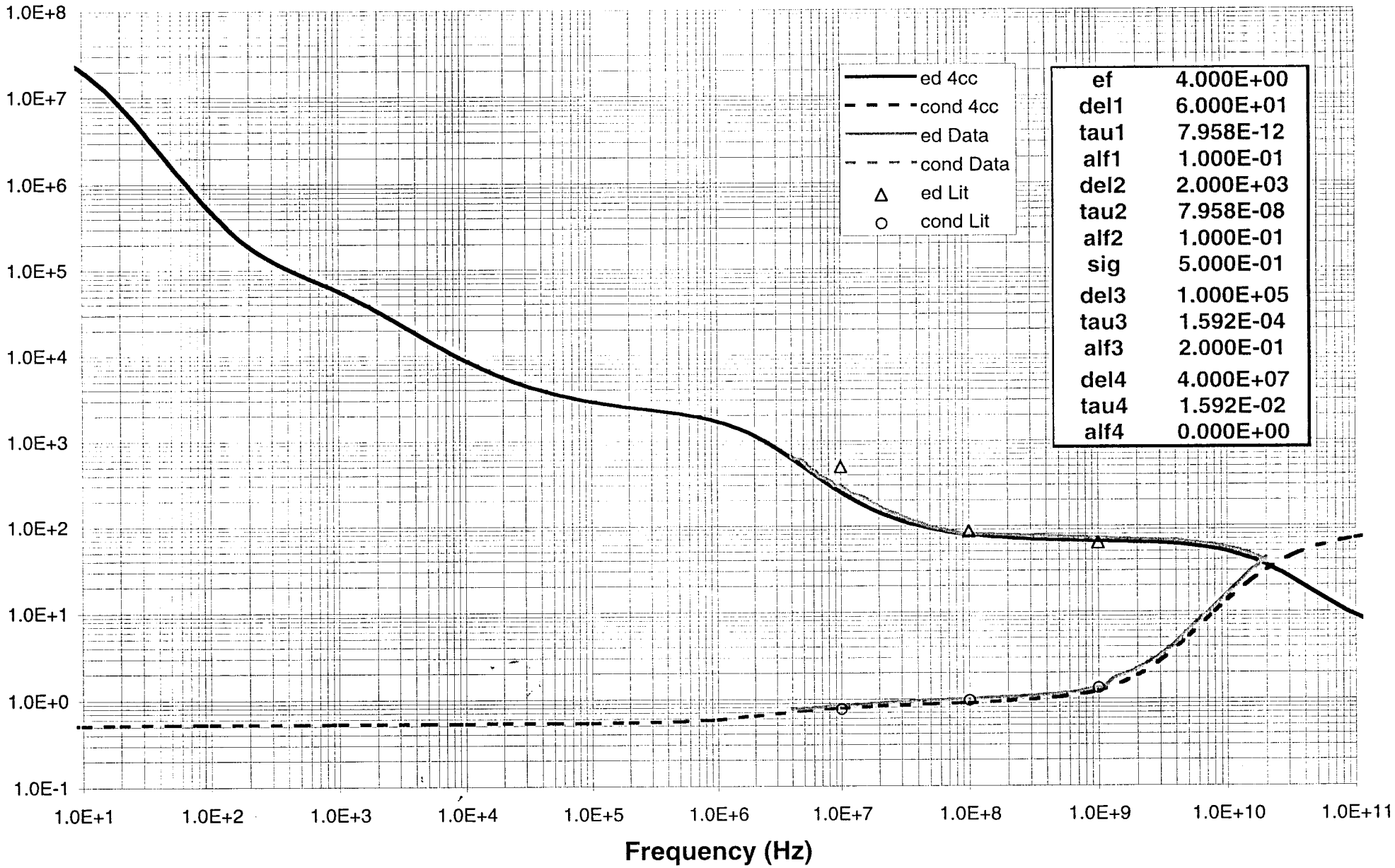
Small Intestine



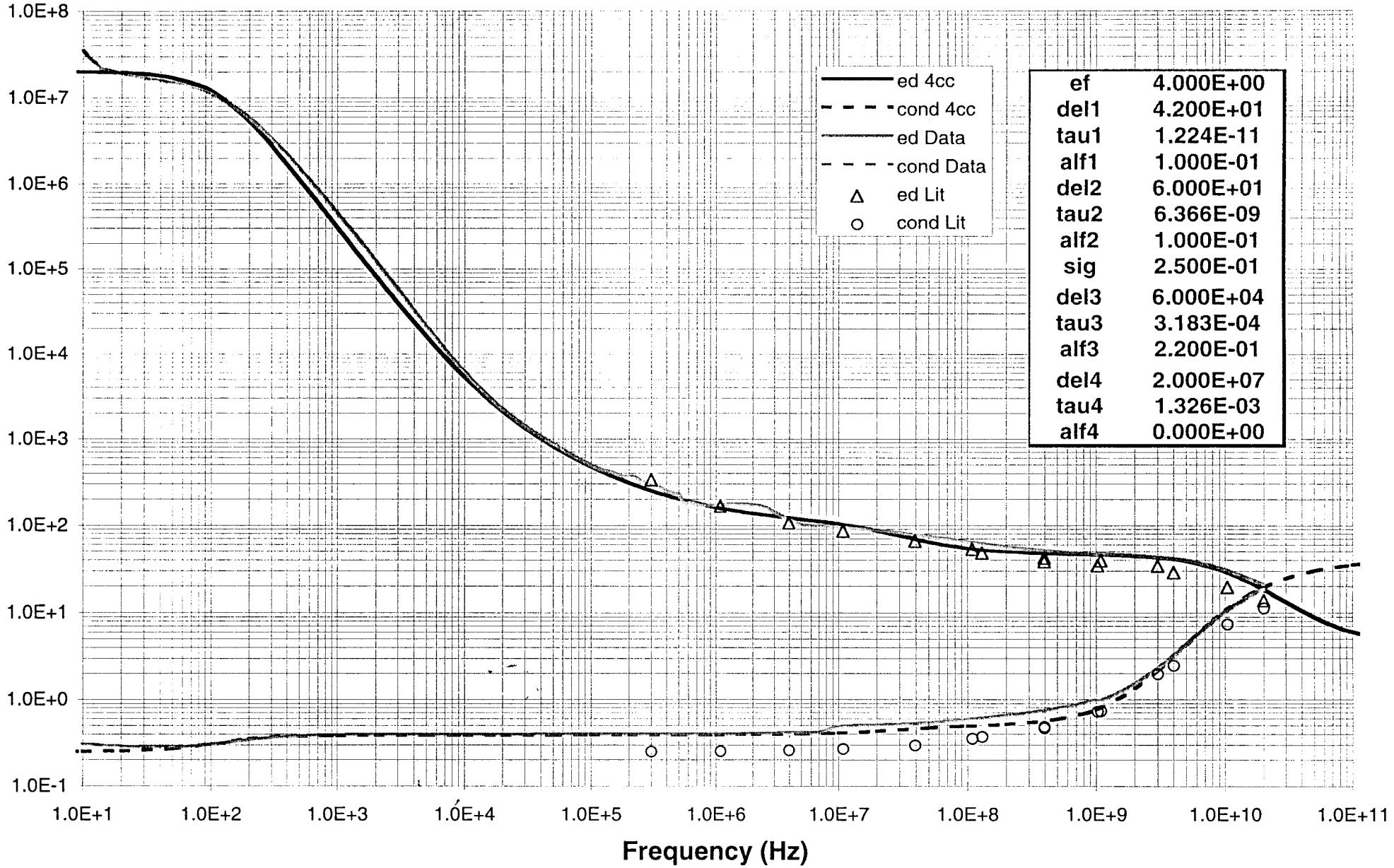
Spleen


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E-2
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.800E+01
tau1 7.958E-12
alf1 1.000E-01
del2 2.500E+03
tau2 6.366E-08
alf2 1.500E-01
sig 3.000E-02
del3 2.000E+05
tau3 2.653E-04
alf3 2.500E-01
del4 5.000E+07
tau4 6.366E-03
alf4 0.000E+00

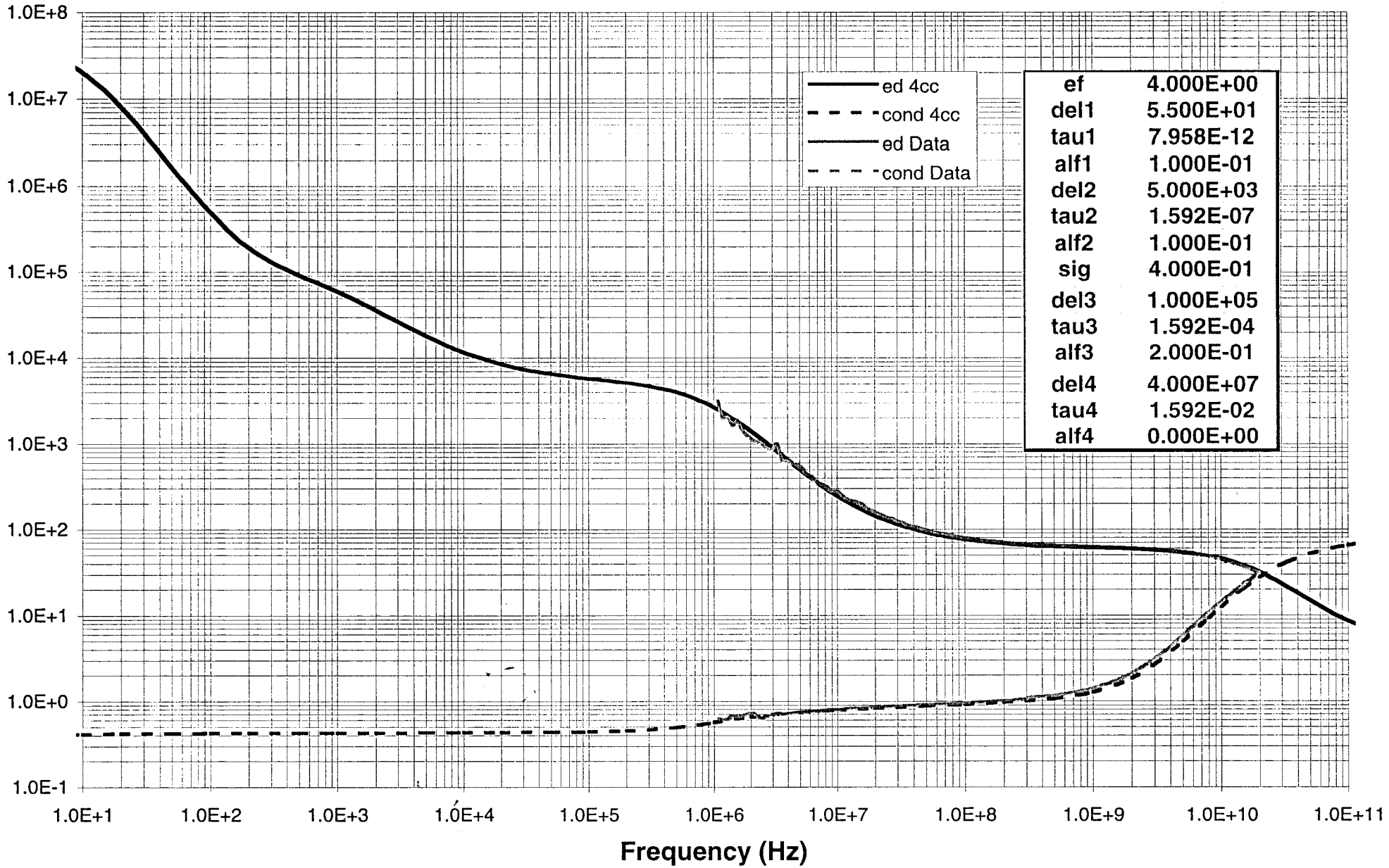
Stomach


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 6.000E+01
tau1 7.958E-12
alf1 1.000E-01
del2 2.000E+03
tau2 7.958E-08
alf2 1.000E-01
sig 5.000E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

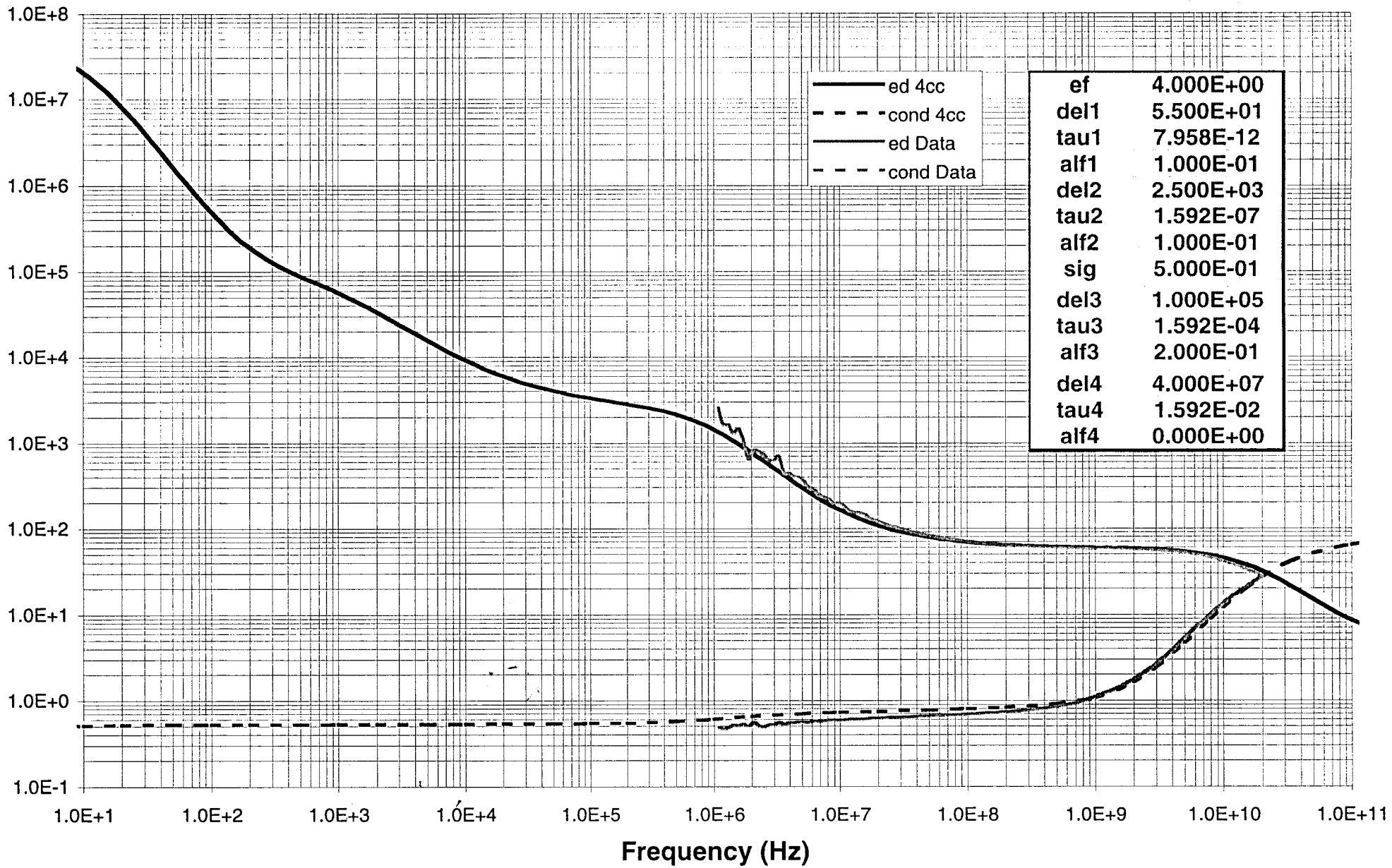
Tendon


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 4.200E+01
tau1 1.224E-11
alf1 1.000E-01
del2 6.000E+01
tau2 6.366E-09
alf2 1.000E-01
sig 2.500E-01
del3 6.000E+04
tau3 3.183E-04
alf3 2.200E-01
del4 2.000E+07
tau4 1.326E-03
alf4 0.000E+00

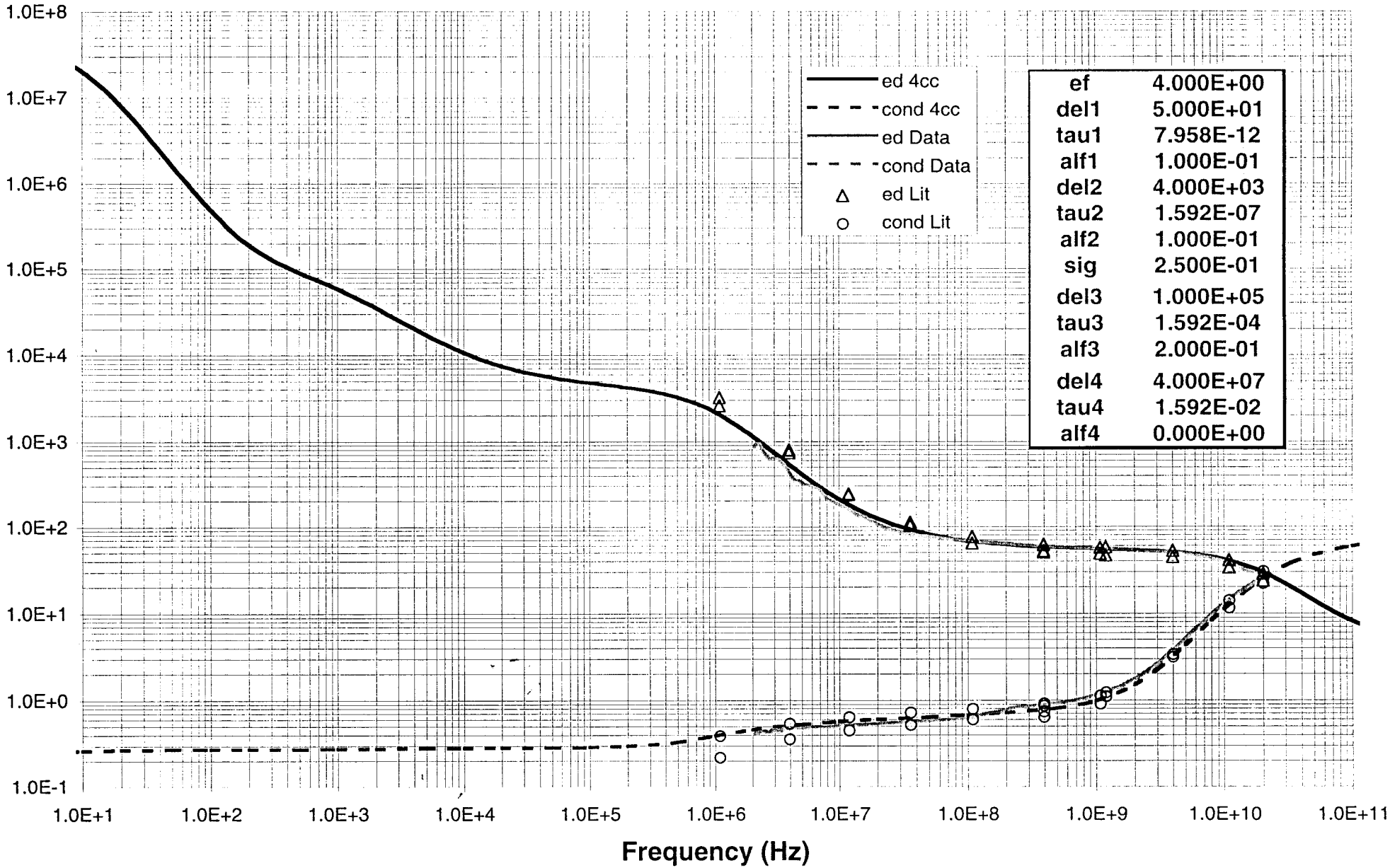
Testis


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 5.500E+01
tau1 7.958E-12
alf1 1.000E-01
del2 5.000E+03
tau2 1.592E-07
alf2 1.000E-01
sig 4.000E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

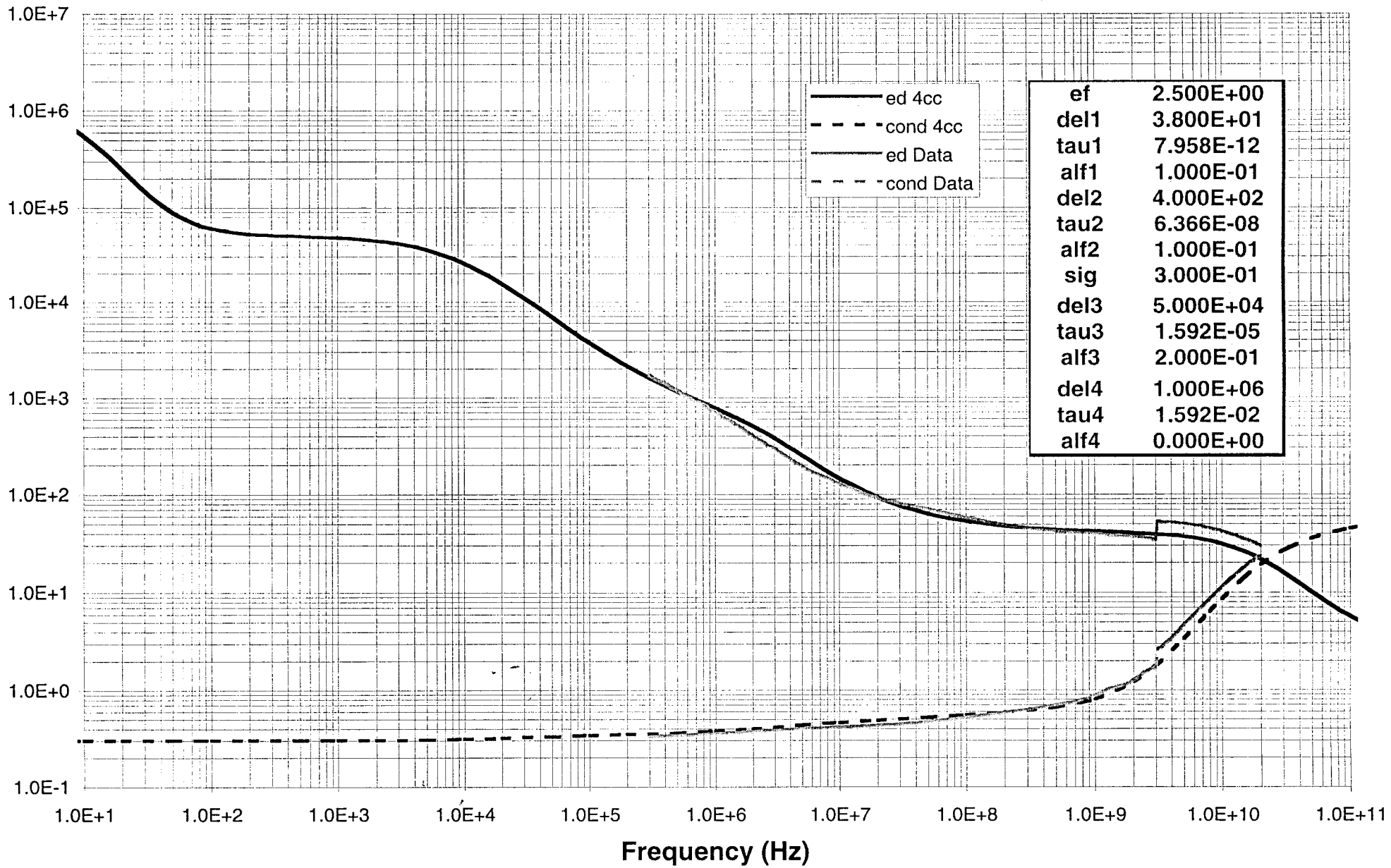
Thyroid


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 5.500E+01
tau1 7.958E-12
alf1 1.000E-01
del2 2.500E+03
tau2 1.592E-07
alf2 1.000E-01
sig 5.000E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

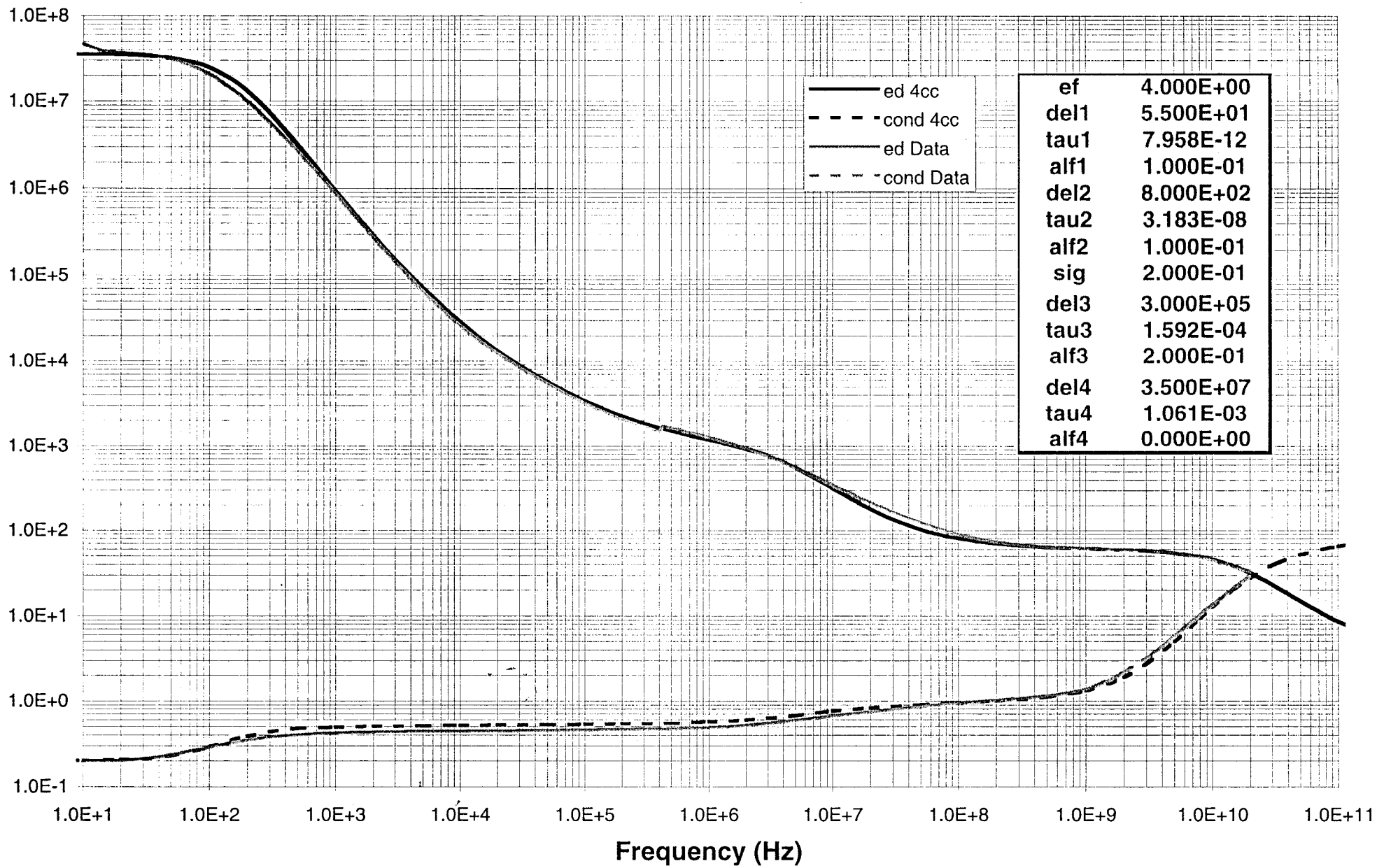
Tongue


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ed Lit
cond Lit
ef 4.000E+00
del1 5.000E+01
tau1 7.958E-12
alf1 1.000E-01
del2 4.000E+03
tau2 1.592E-07
alf2 1.000E-01
sig 2.500E-01
del3 1.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 4.000E+07
tau4 1.592E-02
alf4 0.000E+00

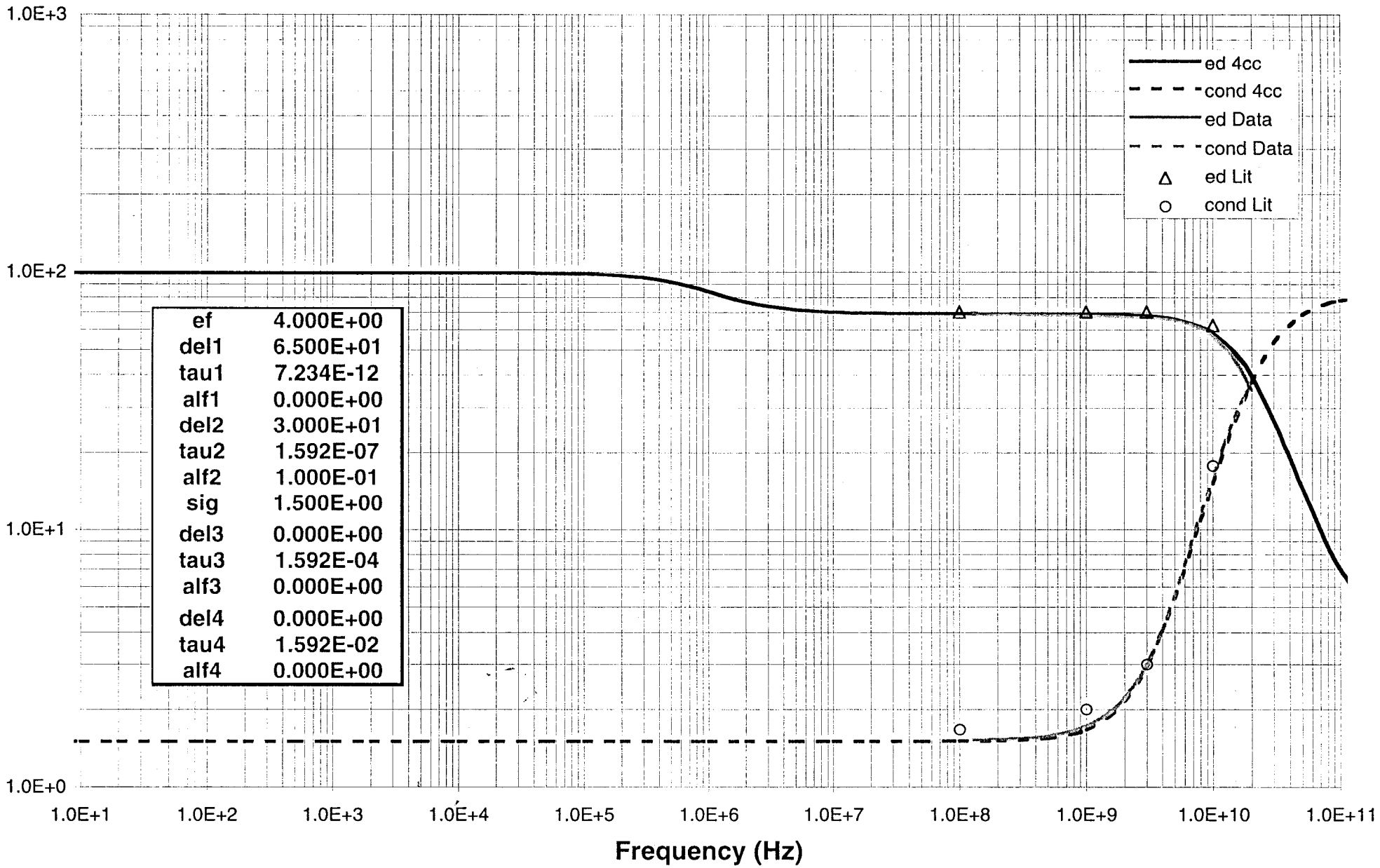
Trachea


1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 2.500E+00
del1 3.800E+01
tau1 7.958E-12
alf1 1.000E-01
del2 4.000E+02
tau2 6.366E-08
alf2 1.000E-01
sig 3.000E-01
del3 5.000E+04
tau3 1.592E-05
alf3 2.000E-01
del4 1.000E+06
tau4 1.592E-02
alf4 0.000E+00

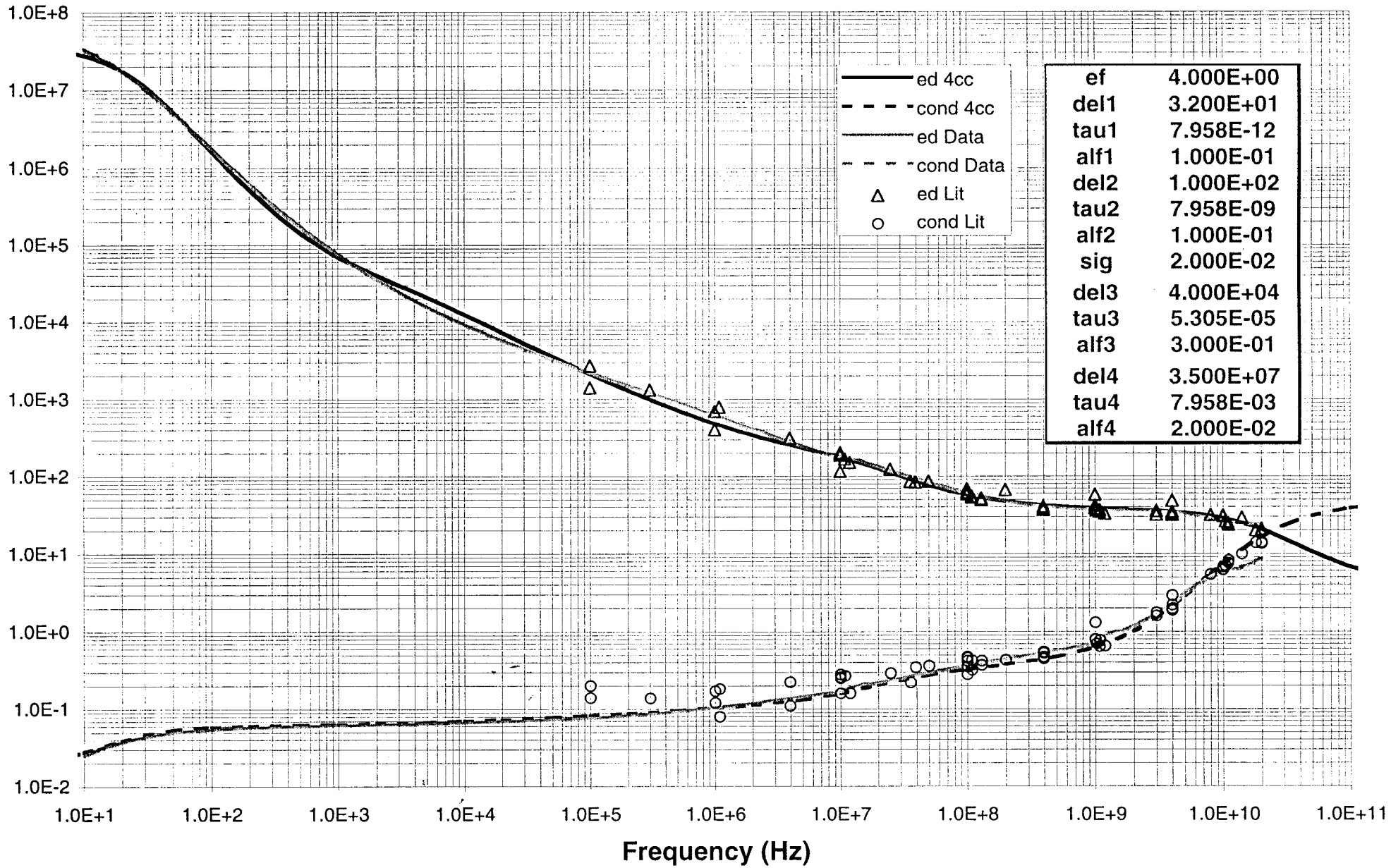
Uterus


1.0E+8
1.0E+7
1.0E+6
1.0E+5
1.0E+4
1.0E+3
1.0E+2
1.0E+1
1.0E+0
1.0E-1
1.0E+1
1.0E+2
1.0E+3
1.0E+4
1.0E+5
1.0E+6
1.0E+7
1.0E+8
1.0E+9
1.0E+10
1.0E+11
Frequency (Hz)
ed 4cc
cond 4cc
ed Data
cond Data
ef 4.000E+00
del1 5.500E+01
tau1 7.958E-12
alf1 1.000E-01
del2 8.000E+02
tau2 3.183E-08
alf2 1.000E-01
sig 2.000E-01
del3 3.000E+05
tau3 1.592E-04
alf3 2.000E-01
del4 3.500E+07
tau4 1.061E-03
alf4 0.000E+00

Vitreous Humour



White Matter



APPENDIX D: Tabulation of the experimental data referred to in Appendix C.

1. Aorta
2. Bladder
3. Blood
4. Bone -Cancellous (contains red bone marrow)
5. Bone -Cortical
6. Bone -Marrow (not infiltrated)
7. Breast fat
8. Cartilage
9. Cerebellum
10. Cerebro Spinal Fluid
11. Cervix
12. Colon (lower and upper large intestine)
13. Cornea
14. Dura
15. Eye (Sclera)
16. Fat (not infiltrated)
17. Gall Bladder
18. Gall Bladder Bile
19. Grey Matter
20. Heart
21. Kidney
22. Lens Cortex
23. Lens Nucleus (for lens use average of cortex and nucleus)
24. Liver
25. Lung -Deflated
26. Lung -Inflated
27. Muscle -Transverse (Radial field direction was along then across the fibre)
28. Nerve (spinal chord)
29. Ovary
30. Skin -Dry
31. Skin -Wet
32. Small Intestine
33. Spleen
34. Stomach (also oesophagus, duodenum and all upper digestive track)
35. Tendon
36. Testis (prostate has a similar composition, expect similar dielectric properties)
37. Thyroid (thymus has a similar water content, expect similar properties)
38. Tongue
39. Trachea
40. Uterus
41. Vitreous Humour
42. White Matter

Aorta

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+2	4.190E+6	3.417E+7	1.900E-1
1.122E+2	3.877E+6	3.090E+7	1.930E-1
1.259E+2	3.563E+6	2.793E+7	1.953E-1
1.413E+2	3.217E+6	2.527E+7	1.983E-1
1.585E+2	2.870E+6	2.283E+7	2.013E-1
1.778E+2	2.540E+6	2.063E+7	2.040E-1
1.995E+2	2.223E+6	1.860E+7	2.067E-1
2.239E+2	1.933E+6	1.680E+7	2.093E-1
2.512E+2	1.673E+6	1.513E+7	2.117E-1
2.818E+2	1.453E+6	1.363E+7	2.137E-1
3.162E+2	1.243E+6	1.223E+7	2.157E-1
3.548E+2	1.063E+6	1.100E+7	2.173E-1
3.981E+2	9.030E+5	9.877E+6	2.187E-1
4.467E+2	7.660E+5	8.870E+6	2.203E-1
5.012E+2	6.473E+5	7.953E+6	2.220E-1
5.623E+2	5.450E+5	7.130E+6	2.230E-1
6.310E+2	4.587E+5	6.390E+6	2.240E-1
7.079E+2	3.853E+5	5.720E+6	2.253E-1
7.943E+2	3.203E+5	5.120E+6	2.263E-1
8.913E+2	2.673E+5	4.583E+6	2.273E-1
1.000E+3	2.227E+5	4.097E+6	2.280E-1
1.122E+3	1.857E+5	3.663E+6	2.290E-1
1.259E+3	1.543E+5	3.273E+6	2.293E-1
1.413E+3	1.283E+5	2.927E+6	2.300E-1
1.585E+3	1.067E+5	2.613E+6	2.307E-1
1.778E+3	8.817E+4	2.337E+6	2.310E-1
1.995E+3	7.310E+4	2.083E+6	2.313E-1
2.239E+3	6.070E+4	1.863E+6	2.323E-1
2.512E+3	5.057E+4	1.663E+6	2.323E-1
2.818E+3	4.190E+4	1.483E+6	2.323E-1
3.162E+3	3.500E+4	1.323E+6	2.330E-1
3.548E+3	2.927E+4	1.183E+6	2.333E-1
3.981E+3	2.467E+4	1.053E+6	2.337E-1
4.467E+3	2.060E+4	9.410E+5	2.340E-1
5.012E+3	1.743E+4	8.397E+5	2.340E-1
5.623E+3	1.470E+4	7.493E+5	2.343E-1
6.310E+3	1.253E+4	6.683E+5	2.347E-1
7.079E+3	1.080E+4	5.967E+5	2.350E-1
7.943E+3	9.157E+3	5.320E+5	2.350E-1
8.913E+3	7.973E+3	4.753E+5	2.353E-1
1.000E+4	6.857E+3	4.237E+5	2.357E-1
1.122E+4	5.967E+3	3.780E+5	2.363E-1
1.259E+4	5.220E+3	3.373E+5	2.363E-1
1.413E+4	4.547E+3	3.007E+5	2.363E-1
1.585E+4	4.003E+3	2.683E+5	2.367E-1
1.778E+4	3.540E+3	2.393E+5	2.370E-1
1.995E+4	3.147E+3	2.140E+5	2.373E-1
2.239E+4	2.777E+3	1.907E+5	2.377E-1
2.512E+4	2.490E+3	1.700E+5	2.377E-1
2.818E+4	2.237E+3	1.520E+5	2.377E-1
3.162E+4	2.000E+3	1.353E+5	2.380E-1
3.548E+4	1.800E+3	1.207E+5	2.383E-1
3.981E+4	1.623E+3	1.077E+5	2.387E-1
4.467E+4	1.487E+3	9.607E+4	2.387E-1
5.012E+4	1.353E+3	8.570E+4	2.387E-1
5.623E+4	1.247E+3	7.647E+4	2.390E-1
6.310E+4	1.143E+3	6.820E+4	2.393E-1
7.079E+4	1.053E+3	6.087E+4	2.397E-1
7.943E+4	9.837E+2	5.430E+4	2.400E-1
8.913E+4	9.187E+2	4.840E+4	2.400E-1

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+5	8.437E+2	4.320E+4	2.407E-1
1.122E+5	7.973E+2	3.857E+4	2.407E-1
1.259E+5	7.483E+2	3.440E+4	2.407E-1
1.413E+5	7.057E+2	3.073E+4	2.417E-1
1.585E+5	6.643E+2	2.740E+4	2.417E-1
1.778E+5	6.280E+2	2.447E+4	2.420E-1
1.995E+5	5.963E+2	2.183E+4	2.420E-1
2.239E+5	5.650E+2	1.947E+4	2.427E-1
2.512E+5	5.353E+2	1.737E+4	2.430E-1
2.818E+5	5.073E+2	1.553E+4	2.433E-1
3.162E+5	4.820E+2	1.387E+4	2.440E-1
3.548E+5	4.607E+2	1.240E+4	2.447E-1
3.981E+5	4.377E+2	1.110E+4	2.453E-1
4.467E+5	4.150E+2	9.900E+3	2.457E-1
5.012E+5	3.950E+2	8.843E+3	2.467E-1
5.623E+5	3.750E+2	7.900E+3	2.470E-1
6.310E+5	3.550E+2	7.063E+3	2.480E-1
7.079E+5	3.367E+2	6.317E+3	2.487E-1
7.943E+5	3.193E+2	5.643E+3	2.493E-1
8.913E+5	3.023E+2	5.047E+3	2.500E-1
1.000E+6	2.850E+2	4.513E+3	2.510E-1
1.122E+6	2.687E+2	4.040E+3	2.523E-1
1.259E+6	2.537E+2	3.617E+3	2.533E-1
1.413E+6	2.387E+2	3.233E+3	2.543E-1
1.585E+6	2.240E+2	2.897E+3	2.553E-1
1.778E+6	2.110E+2	2.593E+3	2.563E-1
1.995E+6	1.997E+2	2.313E+3	2.570E-1
2.239E+6	2.033E+2	2.073E+3	2.583E-1
2.512E+6	1.893E+2	1.870E+3	2.613E-1
2.818E+6	1.727E+2	1.677E+3	2.630E-1
3.162E+6	1.607E+2	1.503E+3	2.640E-1
3.548E+6	1.497E+2	1.343E+3	2.657E-1
3.981E+6	1.403E+2	1.207E+3	2.670E-1
4.467E+6	1.327E+2	1.080E+3	2.680E-1
5.012E+6	1.243E+2	9.680E+2	2.700E-1
5.623E+6	1.177E+2	8.667E+2	2.710E-1
6.310E+6	1.110E+2	7.767E+2	2.723E-1
7.079E+6	1.063E+2	6.950E+2	2.737E-1
7.943E+6	1.010E+2	6.247E+2	2.757E-1
8.913E+6	9.563E+1	5.580E+2	2.767E-1
1.000E+7	9.217E+1	4.987E+2	2.777E-1
1.089E+7	1.295E+2	6.750E+2	4.090E-1
1.194E+7	1.255E+2	6.220E+2	4.130E-1
1.310E+7	1.195E+2	5.705E+2	4.155E-1
1.436E+7	1.155E+2	5.235E+2	4.180E-1
1.574E+7	1.110E+2	4.800E+2	4.205E-1
1.726E+7	1.070E+2	4.415E+2	4.235E-1
1.893E+7	1.039E+2	4.070E+2	4.285E-1
2.075E+7	1.001E+2	3.735E+2	4.315E-1
2.276E+7	9.605E+1	3.435E+2	4.355E-1
2.495E+7	9.395E+1	3.160E+2	4.390E-1
2.736E+7	9.025E+1	2.920E+2	4.445E-1
3.000E+7	8.765E+1	2.680E+2	4.480E-1
3.289E+7	8.490E+1	2.470E+2	4.525E-1
3.607E+7	8.290E+1	2.280E+2	4.570E-1
3.955E+7	8.070E+1	2.105E+2	4.635E-1
4.336E+7	7.840E+1	1.940E+2	4.685E-1
4.755E+7	7.595E+1	1.790E+2	4.745E-1
5.213E+7	7.335E+1	1.655E+2	4.805E-1
5.716E+7	7.125E+1	1.530E+2	4.860E-1

Aorta

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
6.268E+7	6.920E+1	1.415E+2	4.930E-1
6.873E+7	6.710E+1	1.310E+2	4.995E-1
7.536E+7	6.530E+1	1.210E+2	5.070E-1
8.263E+7	6.335E+1	1.115E+2	5.130E-1
9.060E+7	6.170E+1	1.032E+2	5.200E-1
9.934E+7	6.010E+1	9.555E+1	5.285E-1
1.089E+8	5.855E+1	8.835E+1	5.350E-1
1.194E+8	5.730E+1	8.170E+1	5.425E-1
1.310E+8	5.590E+1	7.560E+1	5.510E-1
1.436E+8	5.465E+1	6.985E+1	5.580E-1
1.574E+8	5.350E+1	6.460E+1	5.655E-1
1.726E+8	5.250E+1	5.965E+1	5.735E-1
1.893E+8	5.160E+1	5.520E+1	5.815E-1
2.075E+8	5.060E+1	5.110E+1	5.900E-1
2.151E+8	5.540E+1	5.400E+1	6.460E-1
2.262E+8	5.495E+1	5.235E+1	6.585E-1
2.379E+8	5.380E+1	4.975E+1	6.585E-1
2.502E+8	5.385E+1	4.795E+1	6.675E-1
2.631E+8	5.330E+1	4.570E+1	6.695E-1
2.767E+8	5.280E+1	4.410E+1	6.790E-1
2.910E+8	5.230E+1	4.260E+1	6.900E-1
3.060E+8	5.180E+1	4.080E+1	6.945E-1
3.218E+8	5.145E+1	3.915E+1	7.005E-1
3.384E+8	5.080E+1	3.720E+1	7.000E-1
3.559E+8	5.045E+1	3.575E+1	7.085E-1
3.743E+8	5.015E+1	3.455E+1	7.200E-1
3.936E+8	5.005E+1	3.325E+1	7.290E-1
4.140E+8	4.965E+1	3.190E+1	7.345E-1
4.354E+8	4.915E+1	3.050E+1	7.395E-1
4.578E+8	4.945E+1	2.970E+1	7.555E-1
4.815E+8	4.875E+1	2.850E+1	7.640E-1
5.064E+8	4.850E+1	2.730E+1	7.690E-1
5.325E+8	4.845E+1	2.620E+1	7.760E-1
5.600E+8	4.830E+1	2.545E+1	7.935E-1
5.889E+8	4.810E+1	2.450E+1	8.025E-1
6.194E+8	4.760E+1	2.370E+1	8.175E-1
6.513E+8	4.750E+1	2.280E+1	8.275E-1
6.850E+8	4.730E+1	2.210E+1	8.405E-1
7.204E+8	4.690E+1	2.170E+1	8.700E-1
7.576E+8	4.665E+1	2.080E+1	8.750E-1
7.967E+8	4.650E+1	2.020E+1	8.935E-1
8.378E+8	4.650E+1	1.935E+1	9.005E-1
8.811E+8	4.625E+1	1.905E+1	9.325E-1
9.266E+8	4.605E+1	1.840E+1	9.480E-1
9.745E+8	4.585E+1	1.780E+1	9.670E-1
1.025E+9	4.570E+1	1.745E+1	9.995E-1
1.078E+9	4.540E+1	1.705E+1	1.020E+0
1.133E+9	4.535E+1	1.655E+1	1.045E+0
1.192E+9	4.525E+1	1.615E+1	1.075E+0
1.254E+9	4.500E+1	1.585E+1	1.105E+0
1.318E+9	4.495E+1	1.550E+1	1.140E+0
1.386E+9	4.445E+1	1.535E+1	1.180E+0
1.458E+9	4.435E+1	1.505E+1	1.220E+0
1.533E+9	4.415E+1	1.490E+1	1.270E+0
1.612E+9	4.380E+1	1.470E+1	1.315E+0
1.696E+9	4.380E+1	1.450E+1	1.370E+0
1.783E+9	4.365E+1	1.425E+1	1.415E+0
1.875E+9	4.345E+1	1.430E+1	1.490E+0
1.972E+9	4.315E+1	1.420E+1	1.555E+0
2.074E+9	4.295E+1	1.405E+1	1.625E+0

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
2.181E+9	4.280E+1	1.400E+1	1.705E+0
2.294E+9	4.255E+1	1.405E+1	1.795E+0
2.412E+9	4.225E+1	1.400E+1	1.885E+0
2.537E+9	4.195E+1	1.405E+1	1.985E+0
2.668E+9	4.180E+1	1.400E+1	2.075E+0
2.806E+9	4.155E+1	1.405E+1	2.190E+0
2.951E+9	4.130E+1	1.400E+1	2.300E+0
3.103E+9	4.100E+1	1.415E+1	2.445E+0
3.263E+9	4.070E+1	1.420E+1	2.580E+0
3.432E+9	4.050E+1	1.425E+1	2.725E+0
3.609E+9	4.015E+1	1.455E+1	2.920E+0
3.796E+9	3.980E+1	1.460E+1	3.080E+0
3.992E+9	3.955E+1	1.480E+1	3.285E+0
4.198E+9	3.930E+1	1.500E+1	3.510E+0
4.415E+9	3.875E+1	1.525E+1	3.740E+0
4.643E+9	3.845E+1	1.555E+1	4.015E+0
4.883E+9	3.795E+1	1.585E+1	4.300E+0
5.135E+9	3.760E+1	1.615E+1	4.615E+0
5.400E+9	3.700E+1	1.640E+1	4.930E+0
5.679E+9	3.655E+1	1.670E+1	5.275E+0
5.972E+9	3.575E+1	1.685E+1	5.600E+0
6.281E+9	3.520E+1	1.700E+1	5.935E+0
6.605E+9	3.455E+1	1.735E+1	6.390E+0
6.946E+9	3.400E+1	1.750E+1	6.765E+0
7.305E+9	3.330E+1	1.770E+1	7.200E+0
7.682E+9	3.285E+1	1.770E+1	7.580E+0
8.079E+9	3.190E+1	1.790E+1	8.035E+0
8.496E+9	3.125E+1	1.790E+1	8.470E+0
8.935E+9	3.070E+1	1.820E+1	9.050E+0
9.397E+9	2.990E+1	1.820E+1	9.510E+0
9.882E+9	2.925E+1	1.835E+1	1.010E+1
1.039E+10	2.855E+1	1.820E+1	1.055E+1
1.093E+10	2.785E+1	1.870E+1	1.135E+1
1.149E+10	2.710E+1	1.855E+1	1.185E+1
1.209E+10	2.645E+1	1.855E+1	1.245E+1
1.271E+10	2.570E+1	1.845E+1	1.305E+1
1.337E+10	2.510E+1	1.900E+1	1.410E+1
1.406E+10	2.425E+1	1.865E+1	1.460E+1
1.478E+10	2.355E+1	1.840E+1	1.510E+1
1.555E+10	2.280E+1	1.865E+1	1.615E+1
1.635E+10	2.210E+1	1.845E+1	1.680E+1
1.720E+10	2.140E+1	1.830E+1	1.750E+1
1.808E+10	2.060E+1	1.845E+1	1.855E+1
1.902E+10	1.995E+1	1.820E+1	1.930E+1
2.000E+10	1.900E+1	1.830E+1	2.035E+1

Bladder

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.089E+6	4.927E+2	3.514E+3	2.129E-1
1.194E+6	4.275E+2	3.291E+3	2.187E-1
1.310E+6	5.802E+2	3.049E+3	2.221E-1
1.436E+6	4.562E+2	2.614E+3	2.088E-1
1.574E+6	3.762E+2	2.538E+3	2.223E-1
1.726E+6	3.379E+2	2.386E+3	2.292E-1
1.893E+6	3.417E+2	2.105E+3	2.217E-1
2.075E+6	2.634E+2	1.872E+3	2.162E-1
2.276E+6	3.157E+2	1.828E+3	2.314E-1
2.495E+6	2.167E+2	1.708E+3	2.371E-1
2.736E+6	1.853E+2	1.480E+3	2.252E-1
3.000E+6	1.852E+2	1.458E+3	2.433E-1
3.289E+6	1.920E+2	1.243E+3	2.275E-1
3.607E+6	1.532E+2	1.240E+3	2.489E-1
3.955E+6	1.213E+2	1.078E+3	2.372E-1
4.336E+6	8.735E+1	1.009E+3	2.433E-1
4.755E+6	9.281E+1	9.025E+2	2.387E-1
5.213E+6	8.271E+1	8.202E+2	2.379E-1
5.716E+6	8.353E+1	7.815E+2	2.485E-1
6.268E+6	8.062E+1	7.049E+2	2.458E-1
6.873E+6	7.722E+1	6.524E+2	2.494E-1
7.536E+6	6.542E+1	5.843E+2	2.450E-1
8.263E+6	5.407E+1	5.303E+2	2.438E-1
9.060E+6	5.173E+1	4.831E+2	2.435E-1
9.934E+6	4.827E+1	4.526E+2	2.501E-1
1.089E+7	4.811E+1	4.130E+2	2.503E-1
1.194E+7	4.671E+1	3.743E+2	2.487E-1
1.310E+7	4.062E+1	3.450E+2	2.514E-1
1.436E+7	3.702E+1	3.156E+2	2.521E-1
1.574E+7	3.852E+1	2.894E+2	2.535E-1
1.726E+7	3.437E+1	2.655E+2	2.550E-1
1.893E+7	3.363E+1	2.423E+2	2.551E-1
2.075E+7	3.114E+1	2.221E+2	2.564E-1
2.276E+7	2.926E+1	2.034E+2	2.575E-1
2.495E+7	2.905E+1	1.856E+2	2.576E-1
2.736E+7	2.815E+1	1.715E+2	2.610E-1
3.000E+7	2.762E+1	1.560E+2	2.604E-1
3.289E+7	2.635E+1	1.436E+2	2.628E-1
3.607E+7	2.552E+1	1.307E+2	2.622E-1
3.955E+7	2.487E+1	1.202E+2	2.644E-1
4.336E+7	2.386E+1	1.107E+2	2.672E-1
4.755E+7	2.337E+1	1.005E+2	2.659E-1
5.213E+7	2.284E+1	9.223E+1	2.675E-1
5.716E+7	2.227E+1	8.433E+1	2.682E-1
6.268E+7	2.194E+1	7.714E+1	2.690E-1
6.873E+7	2.172E+1	7.054E+1	2.697E-1
7.536E+7	2.122E+1	6.460E+1	2.708E-1
8.263E+7	2.100E+1	5.909E+1	2.716E-1
9.060E+7	2.066E+1	5.398E+1	2.721E-1
9.934E+7	2.046E+1	4.945E+1	2.733E-1
1.089E+8	1.997E+1	4.540E+1	2.751E-1
1.194E+8	1.971E+1	4.170E+1	2.771E-1
1.310E+8	1.940E+1	3.823E+1	2.785E-1
1.436E+8	1.908E+1	3.509E+1	2.803E-1
1.574E+8	1.905E+1	3.215E+1	2.816E-1
1.726E+8	1.902E+1	2.948E+1	2.832E-1
1.893E+8	1.888E+1	2.714E+1	2.858E-1
2.075E+8	1.867E+1	2.482E+1	2.866E-1
2.151E+8	1.771E+1	2.385E+1	2.854E-1
2.262E+8	1.815E+1	2.324E+1	2.925E-1

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
2.379E+8	1.768E+1	2.221E+1	2.939E-1
2.502E+8	1.763E+1	2.072E+1	2.884E-1
2.631E+8	1.778E+1	2.027E+1	2.966E-1
2.767E+8	1.790E+1	1.913E+1	2.945E-1
2.910E+8	1.793E+1	1.816E+1	2.940E-1
3.060E+8	1.805E+1	1.707E+1	2.906E-1
3.218E+8	1.811E+1	1.682E+1	3.011E-1
3.384E+8	1.780E+1	1.600E+1	3.012E-1
3.559E+8	1.774E+1	1.522E+1	3.014E-1
3.743E+8	1.753E+1	1.483E+1	3.088E-1
3.936E+8	1.773E+1	1.401E+1	3.069E-1
4.140E+8	1.768E+1	1.310E+1	3.018E-1
4.354E+8	1.767E+1	1.292E+1	3.128E-1
4.578E+8	1.754E+1	1.239E+1	3.157E-1
4.815E+8	1.768E+1	1.185E+1	3.175E-1
5.064E+8	1.767E+1	1.108E+1	3.121E-1
5.325E+8	1.766E+1	1.058E+1	3.135E-1
5.600E+8	1.745E+1	1.030E+1	3.209E-1
5.889E+8	1.712E+1	1.005E+1	3.293E-1
6.194E+8	1.742E+1	9.496E+0	3.272E-1
6.513E+8	1.723E+1	9.284E+0	3.364E-1
6.850E+8	1.730E+1	8.881E+0	3.384E-1
7.204E+8	1.709E+1	8.482E+0	3.399E-1
7.576E+8	1.722E+1	8.196E+0	3.454E-1
7.967E+8	1.737E+1	7.796E+0	3.455E-1
8.378E+8	1.719E+1	7.594E+0	3.540E-1
8.811E+8	1.726E+1	7.376E+0	3.615E-1
9.266E+8	1.716E+1	7.032E+0	3.625E-1
9.745E+8	1.716E+1	6.786E+0	3.679E-1
1.025E+9	1.706E+1	6.756E+0	3.852E-1
1.078E+9	1.698E+1	6.436E+0	3.859E-1
1.133E+9	1.704E+1	6.237E+0	3.932E-1
1.192E+9	1.702E+1	6.052E+0	4.013E-1
1.254E+9	1.706E+1	5.921E+0	4.129E-1
1.318E+9	1.694E+1	5.837E+0	4.280E-1
1.386E+9	1.687E+1	5.743E+0	4.430E-1
1.458E+9	1.680E+1	5.517E+0	4.475E-1
1.533E+9	1.683E+1	5.348E+0	4.562E-1
1.612E+9	1.677E+1	5.249E+0	4.709E-1
1.696E+9	1.674E+1	5.170E+0	4.877E-1
1.783E+9	1.664E+1	5.043E+0	5.003E-1
1.875E+9	1.667E+1	4.981E+0	5.197E-1
1.972E+9	1.661E+1	4.837E+0	5.307E-1
2.074E+9	1.655E+1	4.831E+0	5.575E-1
2.181E+9	1.650E+1	4.749E+0	5.763E-1
2.294E+9	1.641E+1	4.712E+0	6.014E-1
2.412E+9	1.637E+1	4.699E+0	6.306E-1
2.537E+9	1.636E+1	4.676E+0	6.599E-1
2.668E+9	1.633E+1	4.655E+0	6.909E-1
2.806E+9	1.623E+1	4.637E+0	7.238E-1
2.951E+9	1.619E+1	4.619E+0	7.583E-1
3.103E+9	1.612E+1	4.659E+0	8.043E-1
3.263E+9	1.603E+1	4.673E+0	8.483E-1
3.432E+9	1.597E+1	4.706E+0	8.986E-1
3.609E+9	1.587E+1	4.708E+0	9.453E-1
3.796E+9	1.583E+1	4.738E+0	1.001E+0
3.992E+9	1.569E+1	4.798E+0	1.065E+0
4.198E+9	1.563E+1	4.897E+0	1.144E+0
4.415E+9	1.552E+1	4.928E+0	1.210E+0
4.643E+9	1.545E+1	5.077E+0	1.311E+0

Bladder

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
4.883E+9	1.533E+1	5.181E+0	1.407E+0
5.135E+9	1.517E+1	5.247E+0	1.499E+0
5.400E+9	1.498E+1	5.354E+0	1.608E+0
5.679E+9	1.482E+1	5.462E+0	1.726E+0
5.972E+9	1.461E+1	5.497E+0	1.826E+0
6.281E+9	1.443E+1	5.612E+0	1.961E+0
6.605E+9	1.425E+1	5.703E+0	2.096E+0
6.946E+9	1.402E+1	5.760E+0	2.226E+0
7.305E+9	1.379E+1	5.852E+0	2.378E+0
7.682E+9	1.353E+1	5.928E+0	2.533E+0
8.079E+9	1.332E+1	5.985E+0	2.690E+0
8.496E+9	1.305E+1	6.065E+0	2.867E+0
8.935E+9	1.278E+1	6.103E+0	3.033E+0
9.397E+9	1.245E+1	6.121E+0	3.200E+0
9.882E+9	1.216E+1	6.129E+0	3.369E+0
1.039E+10	1.190E+1	6.106E+0	3.530E+0
1.093E+10	1.162E+1	6.086E+0	3.700E+0
1.149E+10	1.134E+1	6.106E+0	3.904E+0
1.209E+10	1.111E+1	5.994E+0	4.030E+0
1.271E+10	1.080E+1	5.963E+0	4.217E+0
1.337E+10	1.050E+1	5.894E+0	4.384E+0
1.406E+10	1.024E+1	5.797E+0	4.534E+0
1.478E+10	1.003E+1	5.685E+0	4.676E+0
1.555E+10	9.731E+0	5.578E+0	4.824E+0
1.635E+10	9.567E+0	5.503E+0	5.006E+0
1.720E+10	9.356E+0	5.438E+0	5.203E+0
1.808E+10	9.127E+0	5.297E+0	5.329E+0
1.902E+10	8.880E+0	5.168E+0	5.467E+0
2.000E+10	8.717E+0	5.049E+0	5.618E+0

Blood

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.090E+6	3.662E+3	2.063E+4	1.250E+0
1.310E+6	3.112E+3	1.765E+4	1.290E+0
1.570E+6	2.475E+3	1.537E+4	1.350E+0
1.890E+6	2.012E+3	1.290E+4	1.360E+0
2.280E+6	1.633E+3	1.065E+4	1.350E+0
2.740E+6	1.253E+3	8.902E+3	1.350E+0
3.290E+6	1.005E+3	7.445E+3	1.360E+0
3.950E+6	8.556E+2	6.229E+3	1.370E+0
4.750E+6	7.030E+2	5.257E+3	1.390E+0
5.720E+6	5.560E+2	4.453E+3	1.420E+0
6.870E+6	4.455E+2	3.776E+3	1.440E+0
8.260E+6	3.632E+2	3.183E+3	1.460E+0
9.930E+6	3.020E+2	2.664E+3	1.470E+0
1.190E+7	2.480E+2	2.235E+3	1.480E+0
1.440E+7	2.041E+2	1.877E+3	1.500E+0
1.730E+7	1.734E+2	1.572E+3	1.510E+0
2.080E+7	1.497E+2	1.315E+3	1.520E+0
2.500E+7	1.288E+2	1.099E+3	1.530E+0
3.000E+7	1.125E+2	9.197E+2	1.530E+0
3.610E+7	1.015E+2	7.690E+2	1.540E+0
4.340E+7	9.300E+1	6.426E+2	1.550E+0
5.210E+7	8.630E+1	5.374E+2	1.560E+0
6.270E+7	8.120E+1	4.490E+2	1.570E+0
7.540E+7	7.760E+1	3.750E+2	1.570E+0
9.060E+7	7.490E+1	3.131E+2	1.580E+0
1.090E+8	7.000E+1	2.614E+2	1.580E+0
1.300E+8	6.800E+1	2.271E+2	1.640E+0
1.440E+8	6.600E+1	2.052E+2	1.640E+0
1.590E+8	6.400E+1	1.861E+2	1.650E+0
1.760E+8	6.200E+1	1.690E+2	1.650E+0
1.940E+8	6.070E+1	1.531E+2	1.660E+0
2.150E+8	5.980E+1	1.390E+2	1.660E+0
2.380E+8	5.930E+1	1.263E+2	1.670E+0
2.630E+8	5.900E+1	1.148E+2	1.680E+0
2.910E+8	5.860E+1	1.044E+2	1.690E+0
3.220E+8	5.790E+1	9.440E+1	1.690E+0
3.560E+8	5.750E+1	8.570E+1	1.700E+0
3.940E+8	5.750E+1	7.800E+1	1.710E+0
4.350E+8	5.730E+1	7.100E+1	1.720E+0
4.810E+8	5.700E+1	6.480E+1	1.730E+0
5.330E+8	5.680E+1	5.920E+1	1.750E+0
5.890E+8	5.650E+1	5.400E+1	1.770E+0
6.510E+8	5.630E+1	4.920E+1	1.780E+0
7.200E+8	5.600E+1	4.510E+1	1.810E+0
7.970E+8	5.570E+1	4.140E+1	1.830E+0
8.810E+8	5.550E+1	3.800E+1	1.860E+0
9.740E+8	5.540E+1	3.500E+1	1.900E+0
1.080E+9	5.520E+1	3.230E+1	1.940E+0
1.190E+9	5.500E+1	2.990E+1	1.980E+0
1.320E+9	5.480E+1	2.780E+1	2.040E+0
1.460E+9	5.460E+1	2.590E+1	2.100E+0
1.610E+9	5.440E+1	2.430E+1	2.180E+0
1.780E+9	5.420E+1	2.290E+1	2.270E+0
1.970E+9	5.400E+1	2.180E+1	2.390E+0
2.180E+9	5.360E+1	2.090E+1	2.530E+0
2.410E+9	5.330E+1	2.010E+1	2.690E+0
2.670E+9	5.310E+1	1.940E+1	2.870E+0
2.950E+9	5.280E+1	1.890E+1	3.100E+0
3.260E+9	5.250E+1	1.860E+1	3.380E+0
3.610E+9	5.210E+1	1.870E+1	3.750E+0
3.990E+9	5.150E+1	1.880E+1	4.170E+0
4.410E+9	5.080E+1	1.880E+1	4.610E+0
4.880E+9	5.010E+1	1.910E+1	5.180E+0
5.400E+9	4.930E+1	1.960E+1	5.880E+0
5.970E+9	4.830E+1	2.000E+1	6.660E+0
6.600E+9	4.710E+1	2.050E+1	7.530E+0
7.300E+9	4.570E+1	2.090E+1	8.510E+0
8.080E+9	4.430E+1	2.140E+1	9.620E+0
8.940E+9	4.280E+1	2.180E+1	1.083E+1
9.880E+9	4.120E+1	2.200E+1	1.209E+1
1.090E+10	3.970E+1	2.220E+1	1.352E+1
1.210E+10	3.800E+1	2.250E+1	1.516E+1
1.340E+10	3.630E+1	2.280E+1	1.697E+1
1.480E+10	3.450E+1	2.310E+1	1.901E+1
1.640E+10	3.270E+1	2.300E+1	2.088E+1
1.810E+10	3.090E+1	2.220E+1	2.230E+1
2.000E+10	2.920E+1	2.110E+1	2.353E+1

Bone (Cancellous)

Frequency (Hz)	Human @ 23°C Current study measurements ε′	ε″	σ (S/m)
9.934E+5	3.348E+2	6.840E+2	3.780E-2
1.089E+6	3.089E+2	6.179E+2	3.745E-2
1.194E+6	2.950E+2	5.969E+2	3.966E-2
1.310E+6	3.144E+2	5.483E+2	3.995E-2
1.436E+6	2.710E+2	4.845E+2	3.870E-2
1.574E+6	2.572E+2	4.825E+2	4.226E-2
1.726E+6	2.458E+2	4.643E+2	4.459E-2
1.893E+6	2.350E+2	4.146E+2	4.366E-2
2.075E+6	2.107E+2	3.811E+2	4.400E-2
2.276E+6	2.181E+2	3.756E+2	4.756E-2
2.495E+6	1.905E+2	3.618E+2	5.022E-2
2.736E+6	1.740E+2	3.193E+2	4.860E-2
3.000E+6	1.727E+2	3.221E+2	5.376E-2
3.289E+6	1.613E+2	2.794E+2	5.113E-2
3.607E+6	1.534E+2	2.863E+2	5.745E-2
3.955E+6	1.356E+2	2.535E+2	5.577E-2
4.336E+6	1.233E+2	2.436E+2	5.877E-2
4.755E+6	1.191E+2	2.218E+2	5.866E-2
5.213E+6	1.102E+2	2.058E+2	5.970E-2
5.716E+6	1.086E+2	1.991E+2	6.333E-2
6.268E+6	1.028E+2	1.830E+2	6.382E-2
6.873E+6	9.860E+1	1.735E+2	6.632E-2
7.536E+6	9.084E+1	1.588E+2	6.659E-2
8.263E+6	8.342E+1	1.471E+2	6.760E-2
9.060E+6	8.020E+1	1.352E+2	6.814E-2
9.934E+6	7.777E+1	1.284E+2	7.098E-2
1.089E+7	7.529E+1	1.202E+2	7.282E-2
1.194E+7	7.241E+1	1.111E+2	7.384E-2
1.310E+7	6.783E+1	1.049E+2	7.639E-2
1.436E+7	6.497E+1	9.869E+1	7.884E-2
1.574E+7	6.289E+1	9.184E+1	8.045E-2
1.726E+7	6.016E+1	8.621E+1	8.279E-2
1.893E+7	5.827E+1	8.009E+1	8.434E-2
2.075E+7	5.553E+1	7.538E+1	8.703E-2
2.276E+7	5.356E+1	7.073E+1	8.955E-2
2.495E+7	5.166E+1	6.613E+1	9.181E-2
2.736E+7	4.991E+1	6.296E+1	9.584E-2
3.000E+7	4.856E+1	5.874E+1	9.803E-2
3.289E+7	4.674E+1	5.565E+1	1.018E-1
3.607E+7	4.489E+1	5.195E+1	1.042E-1
3.955E+7	4.333E+1	4.922E+1	1.083E-1
4.336E+7	4.134E+1	4.669E+1	1.126E-1
4.755E+7	4.001E+1	4.366E+1	1.155E-1
5.213E+7	3.874E+1	4.115E+1	1.193E-1
5.716E+7	3.714E+1	3.876E+1	1.233E-1
6.268E+7	3.591E+1	3.656E+1	1.275E-1
6.873E+7	3.475E+1	3.436E+1	1.314E-1
7.536E+7	3.340E+1	3.234E+1	1.356E-1
8.263E+7	3.248E+1	3.039E+1	1.397E-1
9.060E+7	3.132E+1	2.855E+1	1.439E-1
9.934E+7	3.034E+1	2.681E+1	1.482E-1
1.089E+8	2.917E+1	2.530E+1	1.533E-1
1.194E+8	2.824E+1	2.388E+1	1.587E-1
1.310E+8	2.731E+1	2.240E+1	1.632E-1
1.436E+8	2.643E+1	2.104E+1	1.681E-1
1.574E+8	2.586E+1	1.965E+1	1.721E-1
1.726E+8	2.535E+1	1.838E+1	1.765E-1
1.893E+8	2.472E+1	1.723E+1	1.815E-1
2.075E+8	2.410E+1	1.607E+1	1.855E-1
2.276E+8	2.343E+1	1.502E+1	1.901E-1

Frequency (Hz)	Human @ 23°C Current study measurements ε′	ε″	σ (S/m)
2.495E+8	2.295E+1	1.402E+1	1.946E-1
2.736E+8	2.262E+1	1.313E+1	1.998E-1
3.000E+8	2.223E+1	1.232E+1	2.056E-1
3.289E+8	2.184E+1	1.144E+1	2.093E-1
3.607E+8	2.154E+1	1.071E+1	2.150E-1
3.955E+8	2.127E+1	1.007E+1	2.216E-1
4.336E+8	2.108E+1	9.429E+0	2.275E-1
4.755E+8	2.078E+1	8.862E+0	2.344E-1
5.213E+8	2.063E+1	8.406E+0	2.438E-1
5.716E+8	2.040E+1	7.940E+0	2.525E-1
6.268E+8	2.025E+1	7.543E+0	2.630E-1
6.873E+8	2.004E+1	7.220E+0	2.760E-1
7.536E+8	1.990E+1	6.929E+0	2.905E-1
7.576E+8	1.871E+1	6.846E+0	2.885E-1
7.967E+8	1.884E+1	6.602E+0	2.926E-1
8.378E+8	1.859E+1	6.322E+0	2.947E-1
8.811E+8	1.867E+1	6.278E+0	3.078E-1
9.266E+8	1.856E+1	5.966E+0	3.075E-1
9.745E+8	1.843E+1	5.817E+0	3.154E-1
1.025E+9	1.844E+1	5.924E+0	3.377E-1
1.078E+9	1.835E+1	5.608E+0	3.362E-1
1.133E+9	1.841E+1	5.461E+0	3.443E-1
1.192E+9	1.831E+1	5.406E+0	3.585E-1
1.254E+9	1.833E+1	5.242E+0	3.655E-1
1.318E+9	1.818E+1	5.220E+0	3.828E-1
1.386E+9	1.804E+1	5.165E+0	3.984E-1
1.458E+9	1.802E+1	4.955E+0	4.019E-1
1.533E+9	1.802E+1	4.892E+0	4.172E-1
1.612E+9	1.798E+1	4.822E+0	4.326E-1
1.696E+9	1.788E+1	4.750E+0	4.481E-1
1.783E+9	1.779E+1	4.685E+0	4.648E-1
1.875E+9	1.779E+1	4.653E+0	4.855E-1
1.972E+9	1.772E+1	4.540E+0	4.982E-1
2.074E+9	1.767E+1	4.572E+0	5.276E-1
2.181E+9	1.760E+1	4.501E+0	5.462E-1
2.294E+9	1.750E+1	4.515E+0	5.762E-1
2.412E+9	1.746E+1	4.488E+0	6.023E-1
2.537E+9	1.738E+1	4.495E+0	6.345E-1
2.668E+9	1.734E+1	4.525E+0	6.716E-1
2.806E+9	1.726E+1	4.513E+0	7.045E-1
2.951E+9	1.721E+1	4.528E+0	7.432E-1
3.103E+9	1.715E+1	4.585E+0	7.915E-1
3.263E+9	1.705E+1	4.614E+0	8.377E-1
3.432E+9	1.698E+1	4.641E+0	8.862E-1
3.609E+9	1.687E+1	4.662E+0	9.360E-1
3.796E+9	1.685E+1	4.727E+0	9.982E-1
3.992E+9	1.670E+1	4.800E+0	1.066E+0
4.198E+9	1.663E+1	4.912E+0	1.147E+0
4.415E+9	1.654E+1	4.950E+0	1.216E+0
4.643E+9	1.646E+1	5.135E+0	1.326E+0
4.883E+9	1.635E+1	5.250E+0	1.426E+0
5.135E+9	1.621E+1	5.349E+0	1.528E+0
5.400E+9	1.603E+1	5.480E+0	1.646E+0
5.679E+9	1.587E+1	5.624E+0	1.777E+0
5.972E+9	1.566E+1	5.686E+0	1.889E+0
6.281E+9	1.548E+1	5.840E+0	2.040E+0
6.605E+9	1.529E+1	5.962E+0	2.191E+0
6.946E+9	1.505E+1	6.061E+0	2.342E+0
7.305E+9	1.484E+1	6.189E+0	2.515E+0
7.682E+9	1.458E+1	6.281E+0	2.684E+0

Bone (Cancellous)

Frequency (Hz)	Human @ 23°C Current study measurements		
	ε'	ε''	σ (S/m)
8.079E+9	1.437E+1	6.406E+0	2.879E+0
8.496E+9	1.408E+1	6.492E+0	3.069E+0
8.935E+9	1.381E+1	6.560E+0	3.261E+0
9.397E+9	1.348E+1	6.624E+0	3.463E+0
9.882E+9	1.318E+1	6.672E+0	3.668E+0
1.039E+10	1.293E+1	6.696E+0	3.871E+0
1.093E+10	1.264E+1	6.700E+0	4.074E+0
1.149E+10	1.233E+1	6.764E+0	4.325E+0
1.209E+10	1.211E+1	6.703E+0	4.508E+0
1.271E+10	1.182E+1	6.746E+0	4.771E+0
1.337E+10	1.149E+1	6.721E+0	4.998E+0
1.406E+10	1.123E+1	6.685E+0	5.228E+0
1.478E+10	1.098E+1	6.634E+0	5.457E+0
1.555E+10	1.069E+1	6.583E+0	5.694E+0
1.635E+10	1.049E+1	6.578E+0	5.984E+0
1.720E+10	1.024E+1	6.575E+0	6.289E+0
1.808E+10	9.991E+0	6.511E+0	6.550E+0
1.902E+10	9.713E+0	6.445E+0	6.819E+0
2.000E+10	9.509E+0	6.403E+0	7.124E+0

Bone (Cortical)

Frequency (Hz)	Ovine (Skull) @ 37°C Gabriel et al, 94		
	ε′	ε″	σ (S/m)
1.090E+6	2.086E+2	5.030E+2	3.050E-2
1.310E+6	1.609E+2	4.336E+2	3.160E-2
1.570E+6	1.245E+2	3.687E+2	3.220E-2
1.890E+6	1.168E+2	3.177E+2	3.340E-2
2.280E+6	1.077E+2	2.807E+2	3.560E-2
2.740E+6	8.780E+1	2.362E+2	3.600E-2
3.290E+6	7.525E+1	2.000E+2	3.660E-2
3.950E+6	6.520E+1	1.725E+2	3.790E-2
4.750E+6	5.598E+1	1.495E+2	3.950E-2
5.720E+6	4.830E+1	1.295E+2	4.120E-2
6.870E+6	4.120E+1	1.102E+2	4.210E-2
8.260E+6	3.577E+1	9.227E+1	4.240E-2
9.930E+6	3.389E+1	7.784E+1	4.300E-2
1.190E+7	3.206E+1	6.767E+1	4.480E-2
1.440E+7	2.938E+1	5.867E+1	4.700E-2
1.730E+7	2.773E+1	5.060E+1	4.870E-2
2.080E+7	2.608E+1	4.373E+1	5.060E-2
2.500E+7	2.459E+1	3.782E+1	5.260E-2
3.000E+7	2.333E+1	3.289E+1	5.490E-2
3.610E+7	2.207E+1	2.863E+1	5.750E-2
4.340E+7	2.087E+1	2.493E+1	6.020E-2
5.210E+7	1.967E+1	2.149E+1	6.230E-2
6.270E+7	1.864E+1	1.823E+1	6.360E-2
7.540E+7	1.802E+1	1.552E+1	6.510E-2
9.060E+7	1.742E+1	1.339E+1	6.750E-2
1.090E+8	1.663E+1	1.181E+1	7.160E-2
1.310E+8	1.593E+1	1.040E+1	7.580E-2
1.570E+8	1.548E+1	9.102E+0	7.950E-2
1.890E+8	1.503E+1	7.932E+0	8.340E-2
2.280E+8	1.462E+1	6.954E+0	8.820E-2
2.740E+8	1.426E+1	6.127E+0	9.340E-2
3.290E+8	1.391E+1	5.436E+0	9.950E-2
3.950E+8	1.362E+1	4.892E+0	1.075E-1
4.750E+8	1.333E+1	4.375E+0	1.156E-1
5.720E+8	1.309E+1	3.956E+0	1.259E-1
6.870E+8	1.288E+1	3.616E+0	1.382E-1
7.200E+8	1.285E+1	3.799E+0	1.522E-1
7.970E+8	1.276E+1	3.606E+0	1.599E-1
8.810E+8	1.264E+1	3.457E+0	1.694E-1
9.740E+8	1.248E+1	3.364E+0	1.823E-1
1.080E+9	1.244E+1	3.283E+0	1.973E-1
1.190E+9	1.241E+1	3.181E+0	2.106E-1
1.320E+9	1.227E+1	3.093E+0	2.271E-1
1.460E+9	1.215E+1	3.046E+0	2.474E-1
1.610E+9	1.206E+1	3.030E+0	2.714E-1
1.780E+9	1.194E+1	3.016E+0	2.987E-1
1.970E+9	1.185E+1	3.009E+0	3.297E-1
2.180E+9	1.178E+1	3.029E+0	3.674E-1
2.410E+9	1.167E+1	3.053E+0	4.093E-1
2.670E+9	1.155E+1	3.092E+0	4.593E-1
2.950E+9	1.142E+1	3.157E+0	5.182E-1
3.260E+9	1.130E+1	3.253E+0	5.900E-1
3.610E+9	1.114E+1	3.375E+0	6.778E-1
3.990E+9	1.096E+1	3.513E+0	7.797E-1
4.410E+9	1.077E+1	3.662E+0	8.983E-1
4.880E+9	1.052E+1	3.825E+0	1.039E+0
5.400E+9	1.021E+1	3.964E+0	1.191E+0
5.970E+9	9.873E+0	4.066E+0	1.350E+0
6.600E+9	9.521E+0	4.145E+0	1.522E+0
7.300E+9	9.158E+0	4.191E+0	1.702E+0
8.080E+9	8.807E+0	4.198E+0	1.887E+0
8.940E+9	8.441E+0	4.157E+0	2.068E+0
9.880E+9	8.115E+0	4.066E+0	2.235E+0
1.090E+10	7.851E+0	3.960E+0	2.402E+0
1.210E+10	7.589E+0	3.836E+0	2.582E+0
1.340E+10	7.349E+0	3.614E+0	2.694E+0
1.480E+10	7.203E+0	3.383E+0	2.785E+0
1.640E+10	7.036E+0	3.288E+0	3.000E+0
1.810E+10	6.840E+0	3.237E+0	3.259E+0
2.000E+10	6.687E+0	3.151E+0	3.505E+0

Bone Marrow

Frequency (Hz)	Bovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	8.474E+5	2.479E+6	1.379E-3
1.122E+1	7.235E+5	2.272E+6	1.418E-3
1.259E+1	6.897E+5	2.047E+6	1.434E-3
1.350E+1	6.149E+5	1.853E+6	1.456E-3
1.585E+1	5.436E+5	1.691E+6	1.491E-3
1.778E+1	4.700E+5	1.495E+6	1.479E-3
1.995E+1	4.415E+5	1.377E+6	1.528E-3
2.239E+1	3.909E+5	1.255E+6	1.563E-3
2.512E+1	3.481E+5	1.137E+6	1.589E-3
2.818E+1	3.090E+5	1.029E+6	1.613E-3
3.162E+1	2.748E+5	9.313E+5	1.638E-3
3.548E+1	2.438E+5	8.435E+5	1.665E-3
3.981E+1	2.162E+5	7.636E+5	1.691E-3
4.467E+1	1.918E+5	6.912E+5	1.718E-3
5.012E+1	1.716E+5	6.252E+5	1.743E-3
5.623E+1	1.495E+5	5.660E+5	1.771E-3
6.310E+1	1.322E+5	5.122E+5	1.798E-3
7.079E+1	1.165E+5	4.633E+5	1.825E-3
7.943E+1	1.026E+5	4.189E+5	1.851E-3
8.913E+1	9.024E+4	3.787E+5	1.878E-3
1.000E+2	7.922E+4	3.422E+5	1.904E-3
1.122E+2	6.951E+4	3.092E+5	1.930E-3
1.259E+2	6.085E+4	2.790E+5	1.954E-3
1.413E+2	5.330E+4	2.518E+5	1.979E-3
1.585E+2	4.668E+4	2.271E+5	2.002E-3
1.778E+2	4.086E+4	2.048E+5	2.026E-3
1.995E+2	3.576E+4	1.847E+5	2.050E-3
2.239E+2	3.131E+4	1.664E+5	2.072E-3
2.512E+2	2.744E+4	1.499E+5	2.095E-3
2.818E+2	2.404E+4	1.350E+5	2.116E-3
3.162E+2	2.108E+4	1.215E+5	2.137E-3
3.548E+2	1.848E+4	1.093E+5	2.158E-3
3.981E+2	1.622E+4	9.835E+4	2.178E-3
4.467E+2	1.426E+4	8.847E+4	2.199E-3
5.012E+2	1.253E+4	7.958E+4	2.219E-3
5.623E+2	1.104E+4	7.156E+4	2.239E-3
6.310E+2	9.705E+3	6.435E+4	2.259E-3
7.079E+2	8.546E+3	5.786E+4	2.279E-3
7.943E+2	7.527E+3	5.202E+4	2.299E-3
8.913E+2	6.633E+3	4.675E+4	2.318E-3
1.000E+3	5.846E+3	4.202E+4	2.338E-3
1.122E+3	5.155E+3	3.777E+4	2.358E-3
1.259E+3	4.547E+3	3.394E+4	2.377E-3
1.413E+3	4.011E+3	3.050E+4	2.397E-3
1.585E+3	3.539E+3	2.741E+4	2.417E-3
1.778E+3	3.123E+3	2.463E+4	2.437E-3
1.995E+3	2.757E+3	2.213E+4	2.457E-3
2.239E+3	2.431E+3	1.988E+4	2.476E-3
2.512E+3	2.146E+3	1.786E+4	2.495E-3
2.818E+3	1.893E+3	1.603E+4	2.514E-3
3.162E+3	1.670E+3	1.440E+4	2.533E-3
3.548E+3	1.472E+3	1.293E+4	2.551E-3
3.981E+3	1.299E+3	1.160E+4	2.569E-3
4.467E+3	1.145E+3	1.042E+4	2.588E-3
5.012E+3	1.011E+3	9.344E+3	2.605E-3
5.623E+3	8.913E+2	8.385E+3	2.623E-3
6.310E+3	7.861E+2	7.522E+3	2.640E-3
7.079E+3	6.939E+2	6.747E+3	2.657E-3
7.943E+3	6.131E+2	6.050E+3	2.673E-3
8.913E+3	5.421E+2	5.423E+3	2.689E-3

Frequency (Hz)	Bovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	4.800E+2	4.861E+3	2.704E-3
1.122E+4	4.258E+2	4.356E+3	2.719E-3
1.259E+4	3.783E+2	3.904E+3	2.735E-3
1.413E+4	3.370E+2	3.497E+3	2.748E-3
1.585E+4	3.009E+2	3.132E+3	2.761E-3
1.778E+4	2.695E+2	2.804E+3	2.774E-3
1.995E+4	2.421E+2	2.510E+3	2.786E-3
2.239E+4	2.181E+2	2.247E+3	2.799E-3
2.512E+4	1.982E+2	2.008E+3	2.806E-3
2.818E+4	1.798E+2	1.797E+3	2.818E-3
3.162E+4	1.638E+2	1.609E+3	2.830E-3
3.548E+4	1.499E+2	1.440E+3	2.842E-3
3.981E+4	1.375E+2	1.289E+3	2.856E-3
4.467E+4	1.269E+2	1.154E+3	2.867E-3
5.012E+4	1.177E+2	1.033E+3	2.879E-3
5.623E+4	1.097E+2	9.238E+2	2.890E-3
6.310E+4	1.028E+2	8.265E+2	2.901E-3
7.079E+4	9.668E+1	7.396E+2	2.913E-3
7.943E+4	9.145E+1	6.617E+2	2.924E-3
8.913E+4	8.670E+1	5.925E+2	2.938E-3
1.000E+5	8.268E+1	5.303E+2	2.950E-3
1.122E+5	7.893E+1	4.749E+2	2.964E-3
1.259E+5	7.570E+1	4.254E+2	2.979E-3
1.413E+5	7.278E+1	3.810E+2	2.994E-3
1.585E+5	7.038E+1	3.414E+2	3.010E-3
1.778E+5	6.798E+1	3.060E+2	3.028E-3
1.995E+5	6.573E+1	2.744E+2	3.045E-3
2.239E+5	6.381E+1	2.463E+2	3.068E-3
2.512E+5	6.203E+1	2.214E+2	3.094E-3
2.818E+5	6.041E+1	1.992E+2	3.123E-3
3.162E+5	5.886E+1	1.790E+2	3.149E-3
3.548E+5	5.736E+1	1.612E+2	3.182E-3
3.981E+5	5.601E+1	1.455E+2	3.222E-3
4.467E+5	5.466E+1	1.315E+2	3.268E-3
5.012E+5	5.334E+1	1.191E+2	3.321E-3
5.623E+5	5.204E+1	1.079E+2	3.376E-3
6.310E+5	5.070E+1	9.800E+1	3.440E-3
7.079E+5	4.946E+1	8.924E+1	3.515E-3
7.943E+5	4.811E+1	8.142E+1	3.598E-3
8.913E+5	4.675E+1	7.447E+1	3.692E-3
1.000E+6	4.541E+1	6.826E+1	3.797E-3
1.122E+6	4.406E+1	6.273E+1	3.915E-3
1.259E+6	4.270E+1	5.774E+1	4.044E-3
1.413E+6	4.128E+1	5.331E+1	4.190E-3
1.585E+6	3.987E+1	4.928E+1	4.345E-3
1.778E+6	3.847E+1	4.569E+1	4.520E-3
1.995E+6	3.682E+1	4.254E+1	4.722E-3
2.239E+6	3.562E+1	3.964E+1	4.937E-3
2.512E+6	3.421E+1	3.668E+1	5.126E-3
2.818E+6	3.290E+1	3.443E+1	5.399E-3
3.162E+6	3.153E+1	3.184E+1	5.602E-3
3.548E+6	3.031E+1	2.971E+1	5.864E-3
3.981E+6	2.908E+1	2.773E+1	6.141E-3
4.467E+6	2.797E+1	2.596E+1	6.451E-3
5.012E+6	2.686E+1	2.420E+1	6.746E-3
5.623E+6	2.591E+1	2.252E+1	7.046E-3
6.310E+6	2.500E+1	2.092E+1	7.344E-3
7.079E+6	2.421E+1	1.943E+1	7.653E-3
7.943E+6	2.355E+1	1.802E+1	7.963E-3
8.913E+6	2.300E+1	1.671E+1	8.283E-3

Bone Marrow

Frequency (Hz)	Bovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+7	2.200E+1	1.528E+1	8.500E-3
1.089E+7	2.000E+1	1.436E+1	8.700E-3
1.194E+7	1.800E+1	1.339E+1	8.900E-3
1.310E+7	1.600E+1	1.249E+1	9.100E-3
1.436E+7	1.427E+1	1.164E+1	9.300E-3
1.574E+7	1.401E+1	1.054E+1	9.500E-3
1.726E+7	1.319E+1	9.456E+0	9.700E-3
1.893E+7	1.272E+1	9.708E+0	1.022E-2
2.075E+7	1.198E+1	9.440E+0	1.090E-2
2.276E+7	1.136E+1	8.860E+0	1.122E-2
2.495E+7	1.083E+1	8.334E+0	1.157E-2
2.736E+7	1.069E+1	8.062E+0	1.227E-2
3.000E+7	9.966E+0	7.652E+0	1.277E-2
3.289E+7	9.646E+0	7.403E+0	1.355E-2
3.607E+7	9.502E+0	7.011E+0	1.407E-2
3.955E+7	8.946E+0	6.520E+0	1.434E-2
4.336E+7	8.869E+0	6.382E+0	1.540E-2
4.755E+7	8.335E+0	5.871E+0	1.553E-2
5.213E+7	8.243E+0	5.677E+0	1.647E-2
5.716E+7	7.840E+0	5.353E+0	1.702E-2
6.268E+7	7.723E+0	5.025E+0	1.752E-2
6.873E+7	7.398E+0	4.773E+0	1.825E-2
7.536E+7	7.175E+0	4.549E+0	1.907E-2
8.263E+7	7.043E+0	4.254E+0	1.955E-2
9.060E+7	6.810E+0	4.084E+0	2.059E-2
9.934E+7	6.582E+0	3.838E+0	2.121E-2
1.089E+8	6.572E+0	3.530E+0	2.139E-2
1.194E+8	6.414E+0	3.352E+0	2.227E-2
1.310E+8	6.223E+0	3.182E+0	2.319E-2
1.436E+8	6.064E+0	2.932E+0	2.342E-2
1.574E+8	5.995E+0	2.862E+0	2.507E-2
1.726E+8	5.812E+0	2.689E+0	2.582E-2
1.893E+8	5.779E+0	2.525E+0	2.659E-2
2.075E+8	5.721E+0	2.402E+0	2.773E-2
2.276E+8	5.560E+0	2.225E+0	2.817E-2
2.495E+8	5.487E+0	2.077E+0	2.883E-2
2.736E+8	5.441E+0	1.960E+0	2.984E-2
3.000E+8	5.347E+0	1.887E+0	3.149E-2
3.289E+8	5.287E+0	1.717E+0	3.143E-2
3.607E+8	5.232E+0	1.622E+0	3.255E-2
3.955E+8	5.210E+0	1.551E+0	3.413E-2
4.336E+8	5.137E+0	1.482E+0	3.575E-2
4.755E+8	5.099E+0	1.393E+0	3.684E-2
5.213E+8	5.032E+0	1.314E+0	3.811E-2
5.716E+8	5.030E+0	1.242E+0	3.951E-2
6.268E+8	4.973E+0	1.199E+0	4.182E-2
6.873E+8	4.930E+0	1.102E+0	4.214E-2
7.536E+8	4.946E+0	1.104E+0	4.627E-2
8.263E+8	4.897E+0	1.083E+0	4.979E-2
9.060E+8	4.851E+0	1.052E+0	5.304E-2
9.934E+8	4.799E+0	1.011E+0	5.587E-2
1.089E+9	4.825E+0	9.598E-1	5.816E-2
1.194E+9	4.800E+0	1.011E+0	6.720E-2
1.254E+9	4.900E+0	1.004E+0	7.000E-2
1.318E+9	5.000E+0	9.954E-1	7.300E-2
1.386E+9	5.010E+0	9.854E-1	7.600E-2
1.458E+9	5.011E+0	9.617E-1	7.800E-2
1.533E+9	5.062E+0	9.376E-1	7.997E-2
1.612E+9	5.030E+0	8.982E-1	8.057E-2
1.696E+9	5.011E+0	8.436E-1	7.958E-2

Frequency (Hz)	Bovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.783E+9	5.074E+0	8.745E-1	8.676E-2
1.875E+9	5.083E+0	8.020E-1	8.367E-2
1.972E+9	5.017E+0	8.610E-1	9.447E-2
2.074E+9	5.032E+0	8.520E-1	9.832E-2
2.181E+9	4.999E+0	7.917E-1	9.607E-2
2.294E+9	5.014E+0	8.005E-1	1.022E-1
2.412E+9	4.947E+0	8.027E-1	1.077E-1
2.537E+9	4.950E+0	7.655E-1	1.080E-1
2.668E+9	5.021E+0	8.092E-1	1.201E-1
2.806E+9	4.948E+0	7.674E-1	1.198E-1
2.951E+9	4.991E+0	7.967E-1	1.308E-1
3.103E+9	4.980E+0	7.684E-1	1.327E-1
3.263E+9	4.956E+0	7.713E-1	1.400E-1
3.432E+9	4.941E+0	7.787E-1	1.487E-1
3.609E+9	4.934E+0	7.794E-1	1.565E-1
3.796E+9	4.917E+0	7.913E-1	1.671E-1
3.992E+9	4.894E+0	7.984E-1	1.773E-1
4.198E+9	4.911E+0	7.996E-1	1.867E-1
4.415E+9	4.891E+0	8.348E-1	2.050E-1
4.643E+9	4.894E+0	8.741E-1	2.258E-1
4.883E+9	4.865E+0	8.777E-1	2.384E-1
5.135E+9	4.840E+0	9.054E-1	2.586E-1
5.400E+9	4.834E+0	9.267E-1	2.784E-1
5.679E+9	4.792E+0	9.488E-1	2.997E-1
5.972E+9	4.749E+0	9.772E-1	3.247E-1
6.281E+9	4.744E+0	1.001E+0	3.497E-1
6.605E+9	4.701E+0	1.038E+0	3.813E-1
6.946E+9	4.665E+0	1.048E+0	4.049E-1
7.305E+9	4.652E+0	1.087E+0	4.418E-1
7.682E+9	4.618E+0	1.136E+0	4.854E-1
8.079E+9	4.576E+0	1.123E+0	5.047E-1
8.496E+9	4.515E+0	1.157E+0	5.470E-1
8.935E+9	4.467E+0	1.170E+0	5.817E-1
9.397E+9	4.406E+0	1.205E+0	6.299E-1
9.882E+9	4.348E+0	1.219E+0	6.703E-1
1.039E+10	4.290E+0	1.224E+0	7.077E-1
1.093E+10	4.247E+0	1.240E+0	7.540E-1
1.149E+10	4.196E+0	1.246E+0	7.968E-1
1.209E+10	4.147E+0	1.231E+0	8.275E-1
1.271E+10	4.075E+0	1.246E+0	8.814E-1
1.337E+10	4.018E+0	1.243E+0	9.241E-1
1.406E+10	3.975E+0	1.237E+0	9.678E-1
1.478E+10	3.900E+0	1.232E+0	1.013E+0
1.555E+10	3.856E+0	1.242E+0	1.074E+0
1.635E+10	3.803E+0	1.217E+0	1.107E+0
1.720E+10	3.756E+0	1.216E+0	1.163E+0
1.808E+10	3.699E+0	1.218E+0	1.225E+0
1.902E+10	3.640E+0	1.201E+0	1.270E+0
2.000E+10	3.601E+0	1.192E+0	1.326E+0

Breast Fat

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	1.307E+7	2.820E+7	1.567E-2
1.122E+1	1.129E+7	2.593E+7	1.620E-2
1.259E+1	9.497E+6	2.370E+7	1.663E-2
1.350E+1	8.110E+6	2.173E+7	1.707E-2
1.585E+1	6.927E+6	1.983E+7	1.750E-2
1.778E+1	5.873E+6	1.817E+7	1.797E-2
1.995E+1	4.980E+6	1.650E+7	1.830E-2
2.239E+1	4.227E+6	1.497E+7	1.863E-2
2.512E+1	3.567E+6	1.357E+7	1.897E-2
2.818E+1	3.010E+6	1.227E+7	1.927E-2
3.162E+1	2.537E+6	1.110E+7	1.953E-2
3.548E+1	2.130E+6	1.004E+7	1.980E-2
3.981E+1	1.793E+6	9.040E+6	2.003E-2
4.467E+1	1.523E+6	8.200E+6	2.033E-2
5.012E+1	1.270E+6	7.377E+6	2.057E-2
5.623E+1	1.068E+6	6.637E+6	2.073E-2
6.310E+1	8.943E+5	5.963E+6	2.090E-2
7.079E+1	7.490E+5	5.353E+6	2.107E-2
7.943E+1	6.257E+5	4.800E+6	2.120E-2
8.913E+1	5.233E+5	4.307E+6	2.133E-2
1.000E+2	4.370E+5	3.860E+6	2.147E-2
1.122E+2	3.657E+5	3.460E+6	2.163E-2
1.259E+2	3.057E+5	3.100E+6	2.167E-2
1.413E+2	2.550E+5	2.777E+6	2.180E-2
1.585E+2	2.127E+5	2.487E+6	2.190E-2
1.778E+2	1.783E+5	2.227E+6	2.200E-2
1.995E+2	1.487E+5	1.990E+6	2.207E-2
2.239E+2	1.238E+5	1.777E+6	2.217E-2
2.512E+2	1.028E+5	1.587E+6	2.220E-2
2.818E+2	8.723E+4	1.423E+6	2.230E-2
3.162E+2	7.137E+4	1.267E+6	2.227E-2
3.548E+2	6.003E+4	1.130E+6	2.230E-2
3.981E+2	5.000E+4	1.012E+6	2.243E-2
4.467E+2	4.217E+4	9.080E+5	2.260E-2
5.012E+2	3.553E+4	8.127E+5	2.267E-2
5.623E+2	2.917E+4	7.257E+5	2.273E-2
6.310E+2	2.457E+4	6.490E+5	2.280E-2
7.079E+2	2.037E+4	5.797E+5	2.283E-2
7.943E+2	1.700E+4	5.170E+5	2.283E-2
8.913E+2	1.433E+4	4.610E+5	2.287E-2
1.000E+3	1.188E+4	4.110E+5	2.287E-2
1.122E+3	1.000E+4	3.663E+5	2.287E-2
1.259E+3	8.387E+3	3.270E+5	2.287E-2
1.413E+3	7.040E+3	2.913E+5	2.290E-2
1.585E+3	5.950E+3	2.600E+5	2.290E-2
1.778E+3	4.980E+3	2.317E+5	2.293E-2
1.995E+3	4.223E+3	2.067E+5	2.293E-2
2.239E+3	3.550E+3	1.840E+5	2.293E-2
2.512E+3	3.037E+3	1.643E+5	2.297E-2
2.818E+3	2.583E+3	1.467E+5	2.300E-2
3.162E+3	2.190E+3	1.307E+5	2.300E-2
3.548E+3	1.847E+3	1.167E+5	2.303E-2
3.981E+3	1.657E+3	1.041E+5	2.303E-2
4.467E+3	1.380E+3	9.280E+4	2.303E-2
5.012E+3	1.177E+3	8.267E+4	2.307E-2
5.623E+3	1.042E+3	7.383E+4	2.310E-2
6.310E+3	9.200E+2	6.583E+4	2.313E-2
7.079E+3	8.000E+2	5.870E+4	2.313E-2
7.943E+3	6.810E+2	5.227E+4	2.310E-2
8.913E+3	6.110E+2	4.663E+4	2.313E-2

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	5.293E+2	4.157E+4	2.310E-2
1.122E+4	4.753E+2	3.710E+4	2.317E-2
1.259E+4	4.230E+2	3.303E+4	2.317E-2
1.413E+4	3.753E+2	2.947E+4	2.320E-2
1.585E+4	3.020E+2	2.637E+4	2.323E-2
1.778E+4	2.857E+2	2.353E+4	2.330E-2
1.995E+4	2.537E+2	2.107E+4	2.333E-2
2.239E+4	2.343E+2	1.877E+4	2.340E-2
2.512E+4	2.123E+2	1.677E+4	2.340E-2
2.818E+4	2.043E+2	1.493E+4	2.340E-2
3.162E+4	1.730E+2	1.327E+4	2.333E-2
3.548E+4	1.447E+2	1.187E+4	2.337E-2
3.981E+4	1.270E+2	1.062E+4	2.353E-2
4.467E+4	1.240E+2	9.423E+3	2.347E-2
5.012E+4	1.133E+2	8.413E+3	2.347E-2
5.623E+4	9.790E+1	7.497E+3	2.347E-2
6.310E+4	8.967E+1	6.680E+3	2.343E-2
7.079E+4	8.387E+1	5.963E+3	2.347E-2
7.943E+4	7.617E+1	5.317E+3	2.347E-2
8.913E+4	6.890E+1	4.743E+3	2.350E-2
1.000E+5	6.287E+1	4.220E+3	2.347E-2
1.122E+5	5.723E+1	3.757E+3	2.347E-2
1.259E+5	5.517E+1	3.347E+3	2.343E-2
1.413E+5	4.947E+1	2.967E+3	2.333E-2
1.585E+5	4.323E+1	2.637E+3	2.327E-2
1.778E+5	4.253E+1	2.360E+3	2.333E-2
1.995E+5	3.927E+1	2.107E+3	2.337E-2
2.239E+5	3.633E+1	1.877E+3	2.340E-2
2.512E+5	3.377E+1	1.673E+3	2.337E-2
2.818E+5	3.147E+1	1.490E+3	2.337E-2
3.162E+5	2.920E+1	1.330E+3	2.337E-2
3.548E+5	2.707E+1	1.183E+3	2.337E-2
3.981E+5	2.533E+1	1.057E+3	2.337E-2
4.467E+5	2.367E+1	9.427E+2	2.340E-2
5.012E+5	2.227E+1	8.393E+2	2.340E-2
5.623E+5	2.087E+1	7.483E+2	2.340E-2
6.310E+5	1.950E+1	6.670E+2	2.340E-2
7.079E+5	1.827E+1	5.950E+2	2.340E-2
7.943E+5	1.737E+1	5.303E+2	2.340E-2
8.913E+5	1.633E+1	4.720E+2	2.340E-2
1.000E+6	1.563E+1	4.203E+2	2.337E-2
1.122E+6	1.497E+1	3.737E+2	2.333E-2
1.259E+6	1.440E+1	3.323E+2	2.330E-2
1.413E+6	1.390E+1	2.950E+2	2.320E-2
1.585E+6	1.390E+1	2.617E+2	2.310E-2
1.778E+6	1.407E+1	2.310E+2	2.287E-2
1.995E+6	1.510E+1	2.020E+2	2.240E-2
2.075E+6	1.770E+1	2.460E+2	2.837E-2
2.075E+6	1.770E+1	2.460E+2	2.837E-2
2.495E+6	1.577E+1	1.990E+2	2.760E-2
2.736E+6	1.467E+1	1.730E+2	2.627E-2
3.000E+6	1.763E+1	1.670E+2	2.783E-2
3.289E+6	1.288E+1	1.507E+2	2.760E-2
3.607E+6	1.287E+1	1.447E+2	2.903E-2
3.955E+6	1.680E+1	1.337E+2	2.943E-2
4.336E+6	1.453E+1	1.170E+2	2.827E-2
4.755E+6	1.177E+1	1.063E+2	2.813E-2
5.213E+6	1.210E+1	9.983E+1	2.893E-2
5.716E+6	1.223E+1	8.887E+1	2.823E-2
6.268E+6	1.183E+1	8.297E+1	2.893E-2

Breast Fat

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
6.873E+6	1.101E+1	7.537E+1	2.883E-2
7.536E+6	1.110E+1	6.850E+1	2.870E-2
8.263E+6	9.953E+0	6.533E+1	3.003E-2
9.060E+6	1.207E+1	5.827E+1	2.937E-2
9.934E+6	9.730E+0	5.353E+1	2.957E-2
1.089E+7	1.022E+1	4.937E+1	2.990E-2
1.194E+7	1.006E+1	4.450E+1	2.957E-2
1.310E+7	8.867E+0	4.107E+1	2.990E-2
1.436E+7	9.110E+0	3.780E+1	3.023E-2
1.574E+7	9.187E+0	3.420E+1	2.997E-2
1.726E+7	9.403E+0	3.210E+1	3.083E-2
1.893E+7	9.067E+0	2.870E+1	3.023E-2
2.075E+7	8.527E+0	2.640E+1	3.053E-2
2.276E+7	8.840E+0	2.473E+1	3.130E-2
2.495E+7	8.573E+0	2.237E+1	3.107E-2
2.736E+7	8.333E+0	2.070E+1	3.150E-2
3.000E+7	8.207E+0	1.947E+1	3.253E-2
3.289E+7	7.577E+0	1.777E+1	3.247E-2
3.607E+7	7.813E+0	1.643E+1	3.293E-2
3.955E+7	7.440E+0	1.520E+1	3.343E-2
4.336E+7	7.473E+0	1.403E+1	3.390E-2
4.755E+7	7.337E+0	1.283E+1	3.397E-2
5.213E+7	7.413E+0	1.167E+1	3.387E-2
5.716E+7	7.070E+0	1.074E+1	3.413E-2
6.268E+7	7.040E+0	9.920E+0	3.463E-2
6.873E+7	6.903E+0	9.173E+0	3.507E-2
7.536E+7	6.953E+0	8.423E+0	3.530E-2
8.263E+7	6.883E+0	7.640E+0	3.513E-2
9.060E+7	6.733E+0	7.167E+0	3.610E-2
9.934E+7	6.577E+0	6.657E+0	3.677E-2
1.089E+8	6.473E+0	6.080E+0	3.683E-2
1.194E+8	6.403E+0	5.630E+0	3.740E-2
1.310E+8	6.217E+0	5.290E+0	3.853E-2
1.436E+8	6.223E+0	4.850E+0	3.873E-2
1.574E+8	6.127E+0	4.530E+0	3.967E-2
1.726E+8	6.143E+0	4.130E+0	3.967E-2
1.893E+8	6.143E+0	3.933E+0	4.140E-2
2.075E+8	6.097E+0	3.557E+0	4.107E-2
2.276E+8	5.887E+0	3.313E+0	4.193E-2
2.495E+8	5.860E+0	3.087E+0	4.283E-2
2.736E+8	5.850E+0	2.927E+0	4.453E-2
3.000E+8	5.820E+0	2.703E+0	4.513E-2
3.289E+8	5.700E+0	2.493E+0	4.563E-2
3.607E+8	5.713E+0	2.293E+0	4.603E-2
3.955E+8	5.670E+0	2.190E+0	4.817E-2
4.336E+8	5.620E+0	2.053E+0	4.953E-2
4.755E+8	5.663E+0	1.867E+0	4.930E-2
5.213E+8	5.577E+0	1.817E+0	5.273E-2
5.716E+8	5.533E+0	1.657E+0	5.260E-2
6.268E+8	5.553E+0	1.647E+0	5.740E-2
6.873E+8	5.530E+0	1.503E+0	5.757E-2
7.536E+8	5.523E+0	1.517E+0	6.353E-2
8.263E+8	5.450E+0	1.480E+0	6.813E-2
9.060E+8	5.413E+0	1.423E+0	7.177E-2
9.934E+8	5.377E+0	1.387E+0	7.660E-2
1.089E+9	5.357E+0	1.350E+0	8.210E-2
1.194E+9	5.323E+0	1.323E+0	8.800E-2
1.192E+9	5.230E+0	1.322E+0	8.740E-2
1.254E+9	5.250E+0	1.256E+0	8.757E-2
1.318E+9	5.127E+0	1.243E+0	9.113E-2

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.386E+9	5.357E+0	1.169E+0	8.993E-2
1.458E+9	5.237E+0	1.177E+0	9.547E-2
1.533E+9	5.263E+0	1.120E+0	9.580E-2
1.612E+9	5.227E+0	1.077E+0	9.657E-2
1.696E+9	5.183E+0	1.066E+0	1.005E-1
1.783E+9	5.167E+0	1.099E+0	1.088E-1
1.875E+9	5.247E+0	1.100E+0	1.148E-1
1.972E+9	5.157E+0	1.067E+0	1.169E-1
2.074E+9	5.140E+0	1.025E+0	1.184E-1
2.181E+9	5.160E+0	9.900E-1	1.199E-1
2.294E+9	5.120E+0	9.280E-1	1.184E-1
2.412E+9	5.103E+0	1.021E+0	1.374E-1
2.537E+9	5.143E+0	9.657E-1	1.362E-1
2.668E+9	5.097E+0	9.867E-1	1.462E-1
2.806E+9	5.097E+0	1.000E+0	1.558E-1
2.951E+9	5.047E+0	9.820E-1	1.614E-1
3.103E+9	5.013E+0	9.410E-1	1.622E-1
3.263E+9	5.027E+0	9.763E-1	1.775E-1
3.432E+9	5.050E+0	9.917E-1	1.893E-1
3.609E+9	5.037E+0	1.003E+0	2.010E-1
3.796E+9	5.040E+0	9.963E-1	2.110E-1
3.992E+9	4.987E+0	1.031E+0	2.290E-1
4.198E+9	5.000E+0	1.029E+0	2.400E-1
4.415E+9	4.953E+0	1.057E+0	2.600E-1
4.643E+9	4.963E+0	1.066E+0	2.747E-1
4.883E+9	4.917E+0	1.102E+0	2.990E-1
5.135E+9	4.883E+0	1.120E+0	3.197E-1
5.400E+9	4.873E+0	1.144E+0	3.427E-1
5.679E+9	4.840E+0	1.174E+0	3.710E-1
5.972E+9	4.803E+0	1.192E+0	3.960E-1
6.281E+9	4.733E+0	1.231E+0	4.300E-1
6.605E+9	4.707E+0	1.257E+0	4.617E-1
6.946E+9	4.650E+0	1.291E+0	4.990E-1
7.305E+9	4.620E+0	1.301E+0	5.277E-1
7.682E+9	4.577E+0	1.305E+0	5.583E-1
8.079E+9	4.523E+0	1.330E+0	5.980E-1
8.496E+9	4.450E+0	1.356E+0	6.417E-1
8.935E+9	4.393E+0	1.365E+0	6.770E-1
9.397E+9	4.303E+0	1.385E+0	7.237E-1
9.882E+9	4.270E+0	1.384E+0	7.603E-1
1.039E+10	4.183E+0	1.388E+0	8.030E-1
1.093E+10	4.117E+0	1.390E+0	8.470E-1
1.149E+10	4.050E+0	1.374E+0	8.813E-1
1.209E+10	3.997E+0	1.372E+0	9.240E-1
1.271E+10	3.927E+0	1.372E+0	9.700E-1
1.337E+10	3.877E+0	1.328E+0	9.870E-1
1.406E+10	3.807E+0	1.338E+0	1.046E+0
1.478E+10	3.750E+0	1.296E+0	1.066E+0
1.555E+10	3.687E+0	1.291E+0	1.117E+0
1.635E+10	3.647E+0	1.270E+0	1.156E+0
1.720E+10	3.597E+0	1.254E+0	1.201E+0
1.808E+10	3.520E+0	1.220E+0	1.228E+0
1.902E+10	3.483E+0	1.195E+0	1.264E+0
2.000E+10	3.417E+0	1.187E+0	1.317E+0

Cartilage

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.090E+6	1.538E+3	4.388E+3	2.700E-1
1.310E+6	1.205E+3	3.830E+3	2.800E-1
1.570E+6	9.542E+2	3.303E+3	2.900E-1
1.890E+6	7.885E+2	2.823E+3	3.000E-1
2.280E+6	6.577E+2	2.419E+3	3.100E-1
2.740E+6	5.261E+2	2.047E+3	3.100E-1
3.290E+6	4.313E+2	1.729E+3	3.200E-1
3.950E+6	3.625E+2	1.469E+3	3.200E-1
4.750E+6	3.061E+2	1.251E+3	3.300E-1
5.720E+6	2.582E+2	1.062E+3	3.400E-1
6.870E+6	2.172E+2	8.979E+2	3.400E-1
8.260E+6	1.863E+2	7.592E+2	3.500E-1
9.930E+6	1.647E+2	6.423E+2	3.500E-1
1.190E+7	1.475E+2	5.441E+2	3.600E-1
1.440E+7	1.329E+2	4.614E+2	3.700E-1
1.730E+7	1.208E+2	3.915E+2	3.800E-1
2.080E+7	1.100E+2	3.331E+2	3.800E-1
2.500E+7	1.006E+2	2.836E+2	3.900E-1
3.000E+7	9.278E+1	2.417E+2	4.000E-1
3.610E+7	8.601E+1	2.062E+2	4.100E-1
4.340E+7	8.003E+1	1.761E+2	4.200E-1
5.210E+7	7.468E+1	1.506E+2	4.400E-1
6.270E+7	6.995E+1	1.290E+2	4.500E-1
7.540E+7	6.584E+1	1.104E+2	4.600E-1
9.060E+7	6.216E+1	9.467E+1	4.800E-1
1.090E+8	5.885E+1	8.129E+1	4.900E-1
1.310E+8	5.600E+1	6.985E+1	5.100E-1
1.570E+8	5.359E+1	6.005E+1	5.300E-1
1.890E+8	5.144E+1	5.161E+1	5.400E-1
1.940E+8	4.935E+1	5.084E+1	5.500E-1
2.150E+8	4.870E+1	4.703E+1	5.600E-1
2.380E+8	4.785E+1	4.338E+1	5.700E-1
2.630E+8	4.698E+1	3.991E+1	5.800E-1
2.910E+8	4.621E+1	3.684E+1	6.000E-1
3.220E+8	4.547E+1	3.406E+1	6.100E-1
3.560E+8	4.482E+1	3.140E+1	6.200E-1
3.940E+8	4.423E+1	2.908E+1	6.400E-1
4.350E+8	4.364E+1	2.700E+1	6.500E-1
4.810E+8	4.302E+1	2.505E+1	6.700E-1
5.330E+8	4.253E+1	2.320E+1	6.900E-1
5.890E+8	4.217E+1	2.161E+1	7.100E-1
6.510E+8	4.178E+1	2.023E+1	7.300E-1
7.200E+8	4.143E+1	1.895E+1	7.600E-1
7.970E+8	4.103E+1	1.773E+1	7.900E-1
8.810E+8	4.069E+1	1.671E+1	8.200E-1
9.740E+8	4.034E+1	1.582E+1	8.600E-1
1.080E+9	4.000E+1	1.497E+1	9.000E-1
1.190E+9	3.968E+1	1.427E+1	9.500E-1
1.320E+9	3.934E+1	1.368E+1	1.000E+0
1.460E+9	3.905E+1	1.314E+1	1.070E+0
1.610E+9	3.871E+1	1.268E+1	1.140E+0
1.780E+9	3.828E+1	1.236E+1	1.230E+0
1.970E+9	3.792E+1	1.210E+1	1.330E+0
2.180E+9	3.757E+1	1.190E+1	1.440E+0
2.410E+9	3.716E+1	1.176E+1	1.580E+0
2.670E+9	3.671E+1	1.170E+1	1.740E+0
2.950E+9	3.624E+1	1.168E+1	1.920E+0
3.260E+9	3.577E+1	1.175E+1	2.130E+0
3.610E+9	3.533E+1	1.190E+1	2.390E+0
3.990E+9	3.478E+1	1.214E+1	2.700E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
4.410E+9	3.413E+1	1.242E+1	3.050E+0
4.880E+9	3.337E+1	1.274E+1	3.460E+0
5.400E+9	3.244E+1	1.303E+1	3.920E+0
5.970E+9	3.145E+1	1.327E+1	4.410E+0
6.600E+9	3.047E+1	1.349E+1	4.960E+0
7.300E+9	2.936E+1	1.370E+1	5.570E+0
8.080E+9	2.812E+1	1.381E+1	6.210E+0
8.940E+9	2.691E+1	1.386E+1	6.890E+0
9.880E+9	2.570E+1	1.378E+1	7.580E+0
1.090E+10	2.441E+1	1.365E+1	8.300E+0
1.210E+10	2.310E+1	1.339E+1	9.010E+0
1.340E+10	2.179E+1	1.306E+1	9.710E+0
1.480E+10	2.065E+1	1.263E+1	1.039E+1
1.640E+10	1.957E+1	1.211E+1	1.101E+1
1.810E+10	1.848E+1	1.167E+1	1.174E+1
2.000E+10	1.741E+1	1.115E+1	1.240E+1

Cerebellum

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.090E+6	1.618E+3	2.338E+3	1.400E-1
1.310E+6	1.437E+3	2.078E+3	1.500E-1
1.570E+6	1.288E+3	1.911E+3	1.700E-1
1.890E+6	1.201E+3	1.709E+3	1.800E-1
2.280E+6	1.100E+3	1.496E+3	1.900E-1
2.740E+6	9.501E+2	1.325E+3	2.000E-1
3.290E+6	8.368E+2	1.173E+3	2.100E-1
3.950E+6	7.544E+2	1.039E+3	2.300E-1
4.750E+6	6.777E+2	9.325E+2	2.500E-1
5.720E+6	6.018E+2	8.465E+2	2.700E-1
6.870E+6	5.306E+2	7.659E+2	2.900E-1
8.260E+6	4.683E+2	6.911E+2	3.200E-1
9.930E+6	4.134E+2	6.147E+2	3.400E-1
1.190E+7	3.647E+2	5.480E+2	3.600E-1
1.440E+7	3.213E+2	4.914E+2	3.900E-1
1.730E+7	2.852E+2	4.385E+2	4.200E-1
2.080E+7	2.517E+2	3.905E+2	4.500E-1
2.500E+7	2.215E+2	3.467E+2	4.800E-1
3.000E+7	1.949E+2	3.080E+2	5.100E-1
3.610E+7	1.718E+2	2.729E+2	5.500E-1
4.340E+7	1.515E+2	2.406E+2	5.800E-1
5.210E+7	1.339E+2	2.117E+2	6.100E-1
6.270E+7	1.189E+2	1.854E+2	6.500E-1
7.540E+7	1.061E+2	1.616E+2	6.800E-1
9.060E+7	9.530E+1	1.405E+2	7.100E-1
1.090E+8	8.620E+1	1.220E+2	7.400E-1
1.300E+8	7.170E+1	1.051E+2	7.600E-1
1.440E+8	6.880E+1	9.700E+1	7.800E-1
1.590E+8	6.610E+1	8.930E+1	7.900E-1
1.760E+8	6.360E+1	8.210E+1	8.000E-1
1.940E+8	6.190E+1	7.530E+1	8.200E-1
2.150E+8	6.040E+1	6.910E+1	8.300E-1
2.380E+8	5.890E+1	6.340E+1	8.400E-1
2.630E+8	5.750E+1	5.810E+1	8.500E-1
2.910E+8	5.630E+1	5.330E+1	8.600E-1
3.220E+8	5.520E+1	4.880E+1	8.700E-1
3.560E+8	5.440E+1	4.470E+1	8.800E-1
3.940E+8	5.360E+1	4.100E+1	9.000E-1
4.350E+8	5.290E+1	3.760E+1	9.100E-1
4.810E+8	5.220E+1	3.450E+1	9.200E-1
5.330E+8	5.160E+1	3.170E+1	9.400E-1
5.890E+8	5.120E+1	2.920E+1	9.600E-1
6.510E+8	5.090E+1	2.700E+1	9.800E-1
7.200E+8	5.050E+1	2.510E+1	1.000E+0
7.970E+8	5.010E+1	2.320E+1	1.030E+0
8.810E+8	4.980E+1	2.150E+1	1.060E+0
9.740E+8	4.950E+1	2.010E+1	1.090E+0
1.080E+9	4.920E+1	1.880E+1	1.130E+0
1.190E+9	4.900E+1	1.760E+1	1.170E+0
1.320E+9	4.870E+1	1.660E+1	1.220E+0
1.460E+9	4.850E+1	1.580E+1	1.280E+0
1.610E+9	4.820E+1	1.510E+1	1.350E+0
1.780E+9	4.800E+1	1.450E+1	1.430E+0
1.970E+9	4.780E+1	1.400E+1	1.530E+0
2.180E+9	4.750E+1	1.360E+1	1.660E+0
2.410E+9	4.730E+1	1.340E+1	1.800E+0
2.670E+9	4.700E+1	1.330E+1	1.970E+0
2.950E+9	4.670E+1	1.330E+1	2.180E+0
3.260E+9	4.640E+1	1.330E+1	2.420E+0
3.610E+9	4.600E+1	1.350E+1	2.720E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
3.990E+9	4.570E+1	1.390E+1	3.090E+0
4.410E+9	4.520E+1	1.430E+1	3.520E+0
4.880E+9	4.460E+1	1.490E+1	4.040E+0
5.400E+9	4.380E+1	1.550E+1	4.650E+0
5.970E+9	4.300E+1	1.620E+1	5.370E+0
6.600E+9	4.200E+1	1.680E+1	6.180E+0
7.300E+9	4.090E+1	1.750E+1	7.100E+0
8.080E+9	3.970E+1	1.800E+1	8.110E+0
8.940E+9	3.850E+1	1.850E+1	9.200E+0
9.880E+9	3.710E+1	1.890E+1	1.040E+1
1.090E+10	3.580E+1	1.940E+1	1.180E+1
1.210E+10	3.460E+1	2.000E+1	1.346E+1
1.340E+10	3.330E+1	2.060E+1	1.533E+1
1.480E+10	3.190E+1	2.120E+1	1.743E+1
1.640E+10	3.010E+1	2.210E+1	2.006E+1
1.810E+10	2.820E+1	2.300E+1	2.315E+1
2.000E+10	2.640E+1	2.380E+1	2.651E+1

Cerebro Spinal Fluid

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.300E+8	7.240E+1	3.145E+2	2.270E+0
1.440E+8	7.339E+1	2.847E+2	2.280E+0
1.590E+8	7.406E+1	2.585E+2	2.290E+0
1.760E+8	7.284E+1	2.343E+2	2.290E+0
1.940E+8	7.133E+1	2.113E+2	2.290E+0
2.150E+8	7.053E+1	1.904E+2	2.280E+0
2.380E+8	7.014E+1	1.727E+2	2.290E+0
2.630E+8	6.967E+1	1.567E+2	2.290E+0
2.910E+8	6.922E+1	1.420E+2	2.300E+0
3.220E+8	6.920E+1	1.285E+2	2.300E+0
3.560E+8	6.908E+1	1.163E+2	2.300E+0
3.940E+8	6.902E+1	1.055E+2	2.310E+0
4.350E+8	6.897E+1	9.567E+1	2.320E+0
4.810E+8	6.873E+1	8.675E+1	2.320E+0
5.330E+8	6.859E+1	7.872E+1	2.330E+0
5.890E+8	6.853E+1	7.159E+1	2.350E+0
6.510E+8	6.851E+1	6.511E+1	2.360E+0
7.200E+8	6.841E+1	5.926E+1	2.370E+0
7.970E+8	6.837E+1	5.410E+1	2.400E+0
8.810E+8	6.833E+1	4.942E+1	2.420E+0
9.740E+8	6.815E+1	4.521E+1	2.450E+0
1.080E+9	6.794E+1	4.149E+1	2.490E+0
1.190E+9	6.773E+1	3.814E+1	2.530E+0
1.320E+9	6.767E+1	3.526E+1	2.590E+0
1.460E+9	6.771E+1	3.272E+1	2.650E+0
1.610E+9	6.766E+1	3.047E+1	2.730E+0
1.780E+9	6.742E+1	2.857E+1	2.830E+0
1.970E+9	6.714E+1	2.680E+1	2.940E+0
2.180E+9	6.701E+1	2.526E+1	3.070E+0
2.410E+9	6.686E+1	2.404E+1	3.230E+0
2.670E+9	6.660E+1	2.303E+1	3.420E+0
2.950E+9	6.639E+1	2.226E+1	3.650E+0
3.260E+9	6.617E+1	2.177E+1	3.950E+0
3.610E+9	6.575E+1	2.150E+1	4.320E+0
3.990E+9	6.513E+1	2.135E+1	4.740E+0
4.410E+9	6.448E+1	2.139E+1	5.250E+0
4.880E+9	6.377E+1	2.153E+1	5.850E+0
5.400E+9	6.304E+1	2.187E+1	6.570E+0
5.970E+9	6.214E+1	2.246E+1	7.460E+0
6.600E+9	6.087E+1	2.293E+1	8.430E+0
7.300E+9	5.936E+1	2.322E+1	9.440E+0
8.080E+9	5.767E+1	2.343E+1	1.053E+1
8.940E+9	5.583E+1	2.373E+1	1.180E+1
9.880E+9	5.400E+1	2.432E+1	1.337E+1
1.090E+10	5.209E+1	2.489E+1	1.513E+1
1.210E+10	4.973E+1	2.477E+1	1.666E+1
1.340E+10	4.756E+1	2.485E+1	1.848E+1
1.480E+10	4.541E+1	2.525E+1	2.077E+1
1.640E+10	4.293E+1	2.481E+1	2.257E+1
1.810E+10	4.090E+1	2.474E+1	2.489E+1
2.000E+10	3.920E+1	2.558E+1	2.846E+1

Cervix

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	4.013E+7	3.657E+8	2.033E-1
1.122E+1	3.753E+7	3.227E+8	2.013E-1
1.259E+1	3.547E+7	2.860E+8	2.003E-1
1.350E+1	3.390E+7	2.540E+8	1.997E-1
1.585E+1	3.300E+7	2.263E+8	1.993E-1
1.778E+1	3.217E+7	2.017E+8	1.993E-1
1.995E+1	3.147E+7	1.803E+8	2.003E-1
2.239E+1	3.090E+7	1.617E+8	2.013E-1
2.512E+1	3.037E+7	1.450E+8	2.027E-1
2.818E+1	2.977E+7	1.310E+8	2.050E-1
3.162E+1	2.917E+7	1.180E+8	2.077E-1
3.548E+1	2.843E+7	1.067E+8	2.107E-1
3.981E+1	2.753E+7	9.700E+7	2.150E-1
4.467E+1	2.653E+7	8.827E+7	2.197E-1
5.012E+1	2.530E+7	8.053E+7	2.247E-1
5.623E+1	2.400E+7	7.360E+7	2.303E-1
6.310E+1	2.260E+7	6.747E+7	2.367E-1
7.079E+1	2.107E+7	6.187E+7	2.437E-1
7.943E+1	1.947E+7	5.680E+7	2.510E-1
8.913E+1	1.780E+7	5.223E+7	2.590E-1
1.000E+2	1.613E+7	4.800E+7	2.667E-1
1.122E+2	1.450E+7	4.410E+7	2.753E-1
1.259E+2	1.293E+7	4.047E+7	2.833E-1
1.413E+2	1.143E+7	3.710E+7	2.917E-1
1.585E+2	1.004E+7	3.400E+7	2.993E-1
1.778E+2	8.743E+6	3.107E+7	3.070E-1
1.995E+2	7.567E+6	2.830E+7	3.143E-1
2.239E+2	6.503E+6	2.577E+7	3.213E-1
2.512E+2	5.567E+6	2.343E+7	3.273E-1
2.818E+2	4.743E+6	2.127E+7	3.333E-1
3.162E+2	4.023E+6	1.923E+7	3.390E-1
3.548E+2	3.403E+6	1.740E+7	3.437E-1
3.981E+2	2.870E+6	1.573E+7	3.480E-1
4.467E+2	2.413E+6	1.417E+7	3.523E-1
5.012E+2	2.023E+6	1.277E+7	3.560E-1
5.623E+2	1.693E+6	1.150E+7	3.593E-1
6.310E+2	1.417E+6	1.033E+7	3.627E-1
7.079E+2	1.183E+6	9.277E+6	3.653E-1
7.943E+2	9.857E+5	8.320E+6	3.680E-1
8.913E+2	8.217E+5	7.463E+6	3.700E-1
1.000E+3	6.830E+5	6.693E+6	3.723E-1
1.122E+3	5.677E+5	5.997E+6	3.743E-1
1.259E+3	4.707E+5	5.367E+6	3.760E-1
1.413E+3	3.903E+5	4.807E+6	3.777E-1
1.585E+3	3.237E+5	4.300E+6	3.790E-1
1.778E+3	2.680E+5	3.843E+6	3.803E-1
1.995E+3	2.220E+5	3.440E+6	3.813E-1
2.239E+3	1.837E+5	3.077E+6	3.830E-1
2.512E+3	1.520E+5	2.743E+6	3.837E-1
2.818E+3	1.260E+5	2.453E+6	3.847E-1
3.162E+3	1.048E+5	2.187E+6	3.857E-1
3.548E+3	8.667E+4	1.957E+6	3.863E-1
3.981E+3	7.203E+4	1.750E+6	3.867E-1
4.467E+3	5.987E+4	1.557E+6	3.877E-1
5.012E+3	4.993E+4	1.393E+6	3.880E-1
5.623E+3	4.163E+4	1.243E+6	3.887E-1
6.310E+3	3.487E+4	1.110E+6	3.887E-1
7.079E+3	2.923E+4	9.907E+5	3.897E-1
7.943E+3	2.460E+4	8.827E+5	3.897E-1
8.913E+3	2.080E+4	7.877E+5	3.907E-1

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	1.757E+4	7.027E+5	3.907E-1
1.122E+4	1.493E+4	6.267E+5	3.913E-1
1.259E+4	1.270E+4	5.590E+5	3.917E-1
1.413E+4	1.083E+4	4.987E+5	3.920E-1
1.585E+4	9.273E+3	4.450E+5	3.927E-1
1.778E+4	7.983E+3	3.970E+5	3.927E-1
1.995E+4	6.877E+3	3.543E+5	3.930E-1
2.239E+4	5.940E+3	3.160E+5	3.933E-1
2.512E+4	5.153E+3	2.817E+5	3.937E-1
2.818E+4	4.487E+3	2.510E+5	3.940E-1
3.162E+4	3.920E+3	2.240E+5	3.940E-1
3.548E+4	3.427E+3	1.997E+5	3.950E-1
3.981E+4	3.017E+3	1.783E+5	3.950E-1
4.467E+4	2.673E+3	1.590E+5	3.950E-1
5.012E+4	2.363E+3	1.420E+5	3.953E-1
5.623E+4	2.107E+3	1.267E+5	3.960E-1
6.310E+4	1.883E+3	1.127E+5	3.960E-1
7.079E+4	1.687E+3	1.005E+5	3.960E-1
7.943E+4	1.527E+3	8.977E+4	3.967E-1
8.913E+4	1.377E+3	8.003E+4	3.970E-1
1.000E+5	1.263E+3	7.143E+4	3.973E-1
1.122E+5	1.147E+3	6.367E+4	3.973E-1
1.259E+5	1.040E+3	5.680E+4	3.977E-1
1.413E+5	9.657E+2	5.067E+4	3.983E-1
1.585E+5	8.907E+2	4.517E+4	3.983E-1
1.778E+5	8.260E+2	4.030E+4	3.987E-1
1.995E+5	7.687E+2	3.593E+4	3.990E-1
2.239E+5	7.170E+2	3.203E+4	3.993E-1
2.512E+5	6.723E+2	2.860E+4	4.000E-1
2.818E+5	6.307E+2	2.553E+4	4.000E-1
3.162E+5	5.943E+2	2.277E+4	4.007E-1
3.548E+5	5.603E+2	2.030E+4	4.010E-1
3.981E+5	5.297E+2	1.813E+4	4.017E-1
4.467E+5	5.010E+2	1.617E+4	4.020E-1
5.012E+5	4.753E+2	1.443E+4	4.030E-1
5.623E+5	4.507E+2	1.287E+4	4.033E-1
6.310E+5	4.273E+2	1.150E+4	4.043E-1
7.079E+5	4.057E+2	1.027E+4	4.053E-1
7.943E+5	3.853E+2	9.183E+3	4.057E-1
8.913E+5	3.663E+2	8.200E+3	4.067E-1
1.000E+6	3.473E+2	7.330E+3	4.077E-1
1.122E+6	3.293E+2	6.553E+3	4.087E-1
1.259E+6	3.123E+2	5.857E+3	4.103E-1
1.413E+6	2.953E+2	5.237E+3	4.117E-1
1.585E+6	2.793E+2	4.687E+3	4.130E-1
1.574E+6	4.137E+2	7.673E+3	6.723E-1
1.726E+6	3.893E+2	7.003E+3	6.727E-1
1.893E+6	3.800E+2	6.417E+3	6.757E-1
2.075E+6	3.640E+2	5.857E+3	6.760E-1
2.276E+6	3.607E+2	5.370E+3	6.797E-1
2.495E+6	3.347E+2	4.907E+3	6.817E-1
2.736E+6	3.143E+2	4.487E+3	6.830E-1
3.000E+6	3.063E+2	4.113E+3	6.867E-1
3.289E+6	2.907E+2	3.763E+3	6.890E-1
3.607E+6	2.737E+2	3.440E+3	6.900E-1
3.955E+6	2.583E+2	3.143E+3	6.917E-1
4.336E+6	2.553E+2	2.887E+3	6.960E-1
4.755E+6	2.367E+2	2.643E+3	6.990E-1
5.213E+6	2.297E+2	2.420E+3	7.017E-1
5.716E+6	2.107E+2	2.217E+3	7.050E-1

Cervix

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
6.268E+6	2.113E+2	2.030E+3	7.077E-1
6.873E+6	1.960E+2	1.863E+3	7.127E-1
7.536E+6	1.880E+2	1.707E+3	7.150E-1
8.263E+6	1.803E+2	1.557E+3	7.163E-1
9.060E+6	1.697E+2	1.437E+3	7.233E-1
9.934E+6	1.650E+2	1.317E+3	7.270E-1
1.089E+7	1.563E+2	1.203E+3	7.297E-1
1.194E+7	1.497E+2	1.107E+3	7.353E-1
1.310E+7	1.440E+2	1.013E+3	7.393E-1
1.436E+7	1.390E+2	9.297E+2	7.427E-1
1.574E+7	1.307E+2	8.523E+2	7.463E-1
1.726E+7	1.280E+2	7.810E+2	7.500E-1
1.893E+7	1.220E+2	7.183E+2	7.563E-1
2.075E+7	1.173E+2	6.590E+2	7.610E-1
2.276E+7	1.113E+2	6.043E+2	7.650E-1
2.495E+7	1.083E+2	5.557E+2	7.710E-1
2.736E+7	1.033E+2	5.113E+2	7.783E-1
3.000E+7	9.967E+1	4.693E+2	7.830E-1
3.289E+7	9.620E+1	4.313E+2	7.890E-1
3.607E+7	9.367E+1	3.960E+2	7.950E-1
3.955E+7	9.050E+1	3.663E+2	8.063E-1
4.336E+7	8.680E+1	3.367E+2	8.127E-1
4.755E+7	8.343E+1	3.100E+2	8.197E-1
5.213E+7	7.923E+1	2.857E+2	8.280E-1
5.716E+7	7.637E+1	2.630E+2	8.357E-1
6.268E+7	7.360E+1	2.420E+2	8.433E-1
6.873E+7	7.060E+1	2.230E+2	8.523E-1
7.536E+7	6.810E+1	2.053E+2	8.597E-1
8.263E+7	6.547E+1	1.887E+2	8.680E-1
9.060E+7	6.327E+1	1.740E+2	8.763E-1
9.934E+7	6.120E+1	1.600E+2	8.847E-1
1.089E+8	5.907E+1	1.473E+2	8.927E-1
1.194E+8	5.750E+1	1.353E+2	9.000E-1
1.310E+8	5.600E+1	1.247E+2	9.090E-1
1.436E+8	5.447E+1	1.147E+2	9.170E-1
1.574E+8	5.297E+1	1.053E+2	9.237E-1
1.726E+8	5.183E+1	9.693E+1	9.307E-1
1.893E+8	5.083E+1	8.917E+1	9.383E-1
2.075E+8	4.967E+1	8.193E+1	9.463E-1
2.276E+8	4.863E+1	7.553E+1	9.560E-1
2.495E+8	4.780E+1	6.947E+1	9.643E-1
2.736E+8	4.707E+1	6.387E+1	9.723E-1
3.000E+8	4.643E+1	5.883E+1	9.820E-1
3.289E+8	4.573E+1	5.410E+1	9.903E-1
3.607E+8	4.513E+1	4.980E+1	1.000E+0
3.955E+8	4.460E+1	4.593E+1	1.010E+0
4.336E+8	4.417E+1	4.237E+1	1.020E+0
4.755E+8	4.367E+1	3.903E+1	1.033E+0
5.213E+8	4.333E+1	3.610E+1	1.047E+0
5.716E+8	4.287E+1	3.337E+1	1.060E+0
6.268E+8	4.253E+1	3.100E+1	1.080E+0
6.873E+8	4.213E+1	2.860E+1	1.097E+0
7.536E+8	4.180E+1	2.660E+1	1.117E+0
8.263E+8	4.137E+1	2.473E+1	1.137E+0
8.378E+8	5.497E+1	3.380E+1	1.577E+0
8.811E+8	5.463E+1	3.277E+1	1.607E+0
9.266E+8	5.447E+1	3.140E+1	1.620E+0
9.745E+8	5.430E+1	3.023E+1	1.640E+0
1.025E+9	5.423E+1	2.910E+1	1.657E+0
1.078E+9	5.387E+1	2.817E+1	1.687E+0

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.133E+9	5.383E+1	2.713E+1	1.713E+0
1.192E+9	5.380E+1	2.647E+1	1.753E+0
1.254E+9	5.347E+1	2.547E+1	1.777E+0
1.318E+9	5.337E+1	2.467E+1	1.807E+0
1.386E+9	5.293E+1	2.383E+1	1.840E+0
1.458E+9	5.293E+1	2.323E+1	1.887E+0
1.533E+9	5.273E+1	2.267E+1	1.933E+0
1.612E+9	5.247E+1	2.207E+1	1.977E+0
1.696E+9	5.247E+1	2.157E+1	2.030E+0
1.783E+9	5.227E+1	2.097E+1	2.087E+0
1.875E+9	5.200E+1	2.060E+1	2.150E+0
1.972E+9	5.187E+1	2.020E+1	2.217E+0
2.074E+9	5.163E+1	1.983E+1	2.290E+0
2.181E+9	5.143E+1	1.960E+1	2.377E+0
2.294E+9	5.113E+1	1.923E+1	2.457E+0
2.412E+9	5.097E+1	1.897E+1	2.547E+0
2.537E+9	5.067E+1	1.873E+1	2.643E+0
2.668E+9	5.053E+1	1.853E+1	2.750E+0
2.806E+9	5.027E+1	1.840E+1	2.873E+0
2.951E+9	5.000E+1	1.820E+1	2.983E+0
3.103E+9	4.973E+1	1.810E+1	3.133E+0
3.263E+9	4.943E+1	1.797E+1	3.263E+0
3.432E+9	4.920E+1	1.790E+1	3.420E+0
3.609E+9	4.900E+1	1.807E+1	3.627E+0
3.796E+9	4.860E+1	1.800E+1	3.807E+0
3.992E+9	4.833E+1	1.807E+1	4.010E+0
4.198E+9	4.807E+1	1.820E+1	4.247E+0
4.415E+9	4.753E+1	1.833E+1	4.503E+0
4.643E+9	4.713E+1	1.850E+1	4.773E+0
4.883E+9	4.663E+1	1.870E+1	5.073E+0
5.135E+9	4.620E+1	1.887E+1	5.400E+0
5.400E+9	4.560E+1	1.903E+1	5.713E+0
5.679E+9	4.510E+1	1.927E+1	6.083E+0
5.972E+9	4.437E+1	1.930E+1	6.407E+0
6.281E+9	4.367E+1	1.923E+1	6.733E+0
6.605E+9	4.313E+1	1.957E+1	7.190E+0
6.946E+9	4.260E+1	1.950E+1	7.543E+0
7.305E+9	4.177E+1	1.967E+1	7.997E+0
7.682E+9	4.133E+1	1.967E+1	8.400E+0
8.079E+9	4.047E+1	1.973E+1	8.880E+0
8.496E+9	3.983E+1	1.970E+1	9.300E+0
8.935E+9	3.927E+1	1.983E+1	9.840E+0
9.397E+9	3.847E+1	1.973E+1	1.030E+1
9.882E+9	3.783E+1	1.973E+1	1.090E+1
1.039E+10	3.723E+1	1.953E+1	1.127E+1
1.093E+10	3.660E+1	1.987E+1	1.207E+1
1.149E+10	3.593E+1	1.953E+1	1.247E+1
1.209E+10	3.543E+1	1.957E+1	1.317E+1
1.271E+10	3.493E+1	1.940E+1	1.370E+1
1.337E+10	3.460E+1	1.997E+1	1.483E+1
1.406E+10	3.387E+1	1.973E+1	1.540E+1
1.478E+10	3.343E+1	1.940E+1	1.593E+1
1.555E+10	3.293E+1	1.977E+1	1.710E+1
1.635E+10	3.237E+1	1.973E+1	1.793E+1
1.720E+10	3.207E+1	1.983E+1	1.897E+1
1.808E+10	3.130E+1	2.020E+1	2.033E+1
1.902E+10	3.093E+1	2.030E+1	2.150E+1
2.000E+10	3.020E+1	2.073E+1	2.310E+1

Colon

Frequency (Hz)	Ovine @ 30°C Current study measurements		
	ε′	ε″	σ (S/m)
2.239E+1	3.156E+7	1.701E+7	2.119E-2
2.512E+1	3.093E+7	1.663E+7	2.324E-2
2.818E+1	3.003E+7	1.622E+7	2.544E-2
3.162E+1	2.888E+7	1.611E+7	2.835E-2
3.548E+1	2.756E+7	1.603E+7	3.164E-2
3.981E+1	2.607E+7	1.606E+7	3.558E-2
4.467E+1	2.450E+7	1.608E+7	3.996E-2
5.012E+1	2.290E+7	1.613E+7	4.496E-2
5.623E+1	2.120E+7	1.616E+7	5.054E-2
6.310E+1	1.945E+7	1.611E+7	5.656E-2
7.079E+1	1.768E+7	1.599E+7	6.298E-2
7.943E+1	1.586E+7	1.571E+7	6.941E-2
8.913E+1	1.416E+7	1.541E+7	7.639E-2
1.000E+2	1.250E+7	1.495E+7	8.315E-2
1.122E+2	1.088E+7	1.442E+7	9.002E-2
1.259E+2	9.462E+6	1.372E+7	9.611E-2
1.413E+2	8.125E+6	1.299E+7	1.021E-1
1.585E+2	6.927E+6	1.221E+7	1.077E-1
1.778E+2	5.865E+6	1.141E+7	1.128E-1
1.995E+2	4.936E+6	1.058E+7	1.174E-1
2.239E+2	4.116E+6	9.743E+6	1.213E-1
2.512E+2	3.427E+6	8.978E+6	1.255E-1
2.818E+2	2.852E+6	8.194E+6	1.285E-1
3.162E+2	2.357E+6	7.462E+6	1.313E-1
3.548E+2	1.944E+6	6.775E+6	1.337E-1
3.981E+2	1.599E+6	6.137E+6	1.359E-1
4.467E+2	1.315E+6	5.546E+6	1.378E-1
5.012E+2	1.079E+6	5.002E+6	1.395E-1
5.623E+2	8.879E+5	4.510E+6	1.411E-1
6.310E+2	7.264E+5	4.054E+6	1.423E-1
7.079E+2	5.989E+5	3.648E+6	1.437E-1
7.943E+2	4.906E+5	3.277E+6	1.448E-1
8.913E+2	4.019E+5	2.936E+6	1.456E-1
1.000E+3	3.306E+5	2.633E+6	1.465E-1
1.122E+3	2.719E+5	2.359E+6	1.472E-1
1.259E+3	2.219E+5	2.114E+6	1.480E-1
1.413E+3	1.839E+5	1.892E+6	1.487E-1
1.585E+3	1.510E+5	1.693E+6	1.493E-1
1.778E+3	1.244E+5	1.515E+6	1.498E-1
1.995E+3	1.020E+5	1.355E+6	1.504E-1
2.239E+3	8.429E+4	1.211E+6	1.508E-1
2.512E+3	6.933E+4	1.082E+6	1.512E-1
2.818E+3	5.714E+4	9.666E+5	1.516E-1
3.162E+3	4.729E+4	8.630E+5	1.518E-1
3.548E+3	3.921E+4	7.700E+5	1.520E-1
3.981E+3	3.278E+4	6.869E+5	1.521E-1
4.467E+3	2.771E+4	6.125E+5	1.522E-1
5.012E+3	2.359E+4	5.458E+5	1.522E-1
5.623E+3	2.066E+4	4.864E+5	1.522E-1
6.310E+3	1.834E+4	4.331E+5	1.520E-1
7.079E+3	1.674E+4	3.857E+5	1.519E-1
7.943E+3	1.563E+4	3.435E+5	1.518E-1
8.913E+3	1.494E+4	3.059E+5	1.517E-1
1.000E+4	1.456E+4	2.725E+5	1.516E-1
1.122E+4	1.443E+4	2.429E+5	1.516E-1
1.259E+4	1.446E+4	2.167E+5	1.518E-1
1.413E+4	1.453E+4	1.937E+5	1.522E-1
1.585E+4	1.455E+4	1.735E+5	1.530E-1
1.778E+4	1.438E+4	1.557E+5	1.540E-1
1.995E+4	1.396E+4	1.400E+5	1.554E-1

Frequency (Hz)	Ovine @ 30°C Current study measurements		
	ε′	ε″	σ (S/m)
2.239E+4	1.349E+4	1.263E+5	1.572E-1
2.512E+4	1.223E+4	1.136E+5	1.588E-1
2.818E+4	1.115E+4	1.022E+5	1.602E-1
3.162E+4	1.012E+4	9.172E+4	1.614E-1
3.548E+4	9.161E+3	8.223E+4	1.623E-1
3.981E+4	8.358E+3	7.361E+4	1.630E-1
4.467E+4	7.718E+3	6.577E+4	1.634E-1
5.012E+4	7.241E+3	5.872E+4	1.637E-1
5.623E+4	6.931E+3	5.235E+4	1.638E-1
6.310E+4	6.838E+3	4.665E+4	1.638E-1
7.079E+4	6.968E+3	4.171E+4	1.643E-1
7.943E+4	7.172E+3	3.761E+4	1.662E-1
8.913E+4	7.118E+3	3.430E+4	1.701E-1
1.000E+5	6.689E+3	3.134E+4	1.750E-1
1.122E+5	6.129E+3	2.850E+4	1.800E-1
1.259E+5	5.605E+3	2.584E+4	1.850E-1
1.413E+5	5.121E+3	2.337E+4	1.900E-1
1.585E+5	4.709E+3	2.111E+4	1.950E-1
1.778E+5	4.353E+3	1.906E+4	2.000E-1
1.995E+5	4.037E+3	1.720E+4	2.100E-1
2.239E+5	3.764E+3	1.766E+4	2.200E-1
2.512E+5	3.523E+3	1.646E+4	2.300E-1
2.818E+5	3.312E+3	1.531E+4	2.400E-1
3.162E+5	3.300E+3	1.421E+4	2.500E-1
3.289E+5	3.150E+3	1.421E+4	2.600E-1
3.607E+5	3.100E+3	1.346E+4	2.700E-1
3.955E+5	3.060E+3	1.273E+4	2.800E-1
4.336E+5	2.981E+3	1.202E+4	2.900E-1
4.755E+5	2.869E+3	1.134E+4	3.000E-1
5.213E+5	2.773E+3	1.069E+4	3.100E-1
5.716E+5	2.690E+3	1.006E+4	3.200E-1
6.268E+5	2.602E+3	9.626E+3	3.356E-1
6.873E+5	2.494E+3	8.913E+3	3.408E-1
7.536E+5	2.380E+3	8.265E+3	3.465E-1
8.263E+5	2.276E+3	7.675E+3	3.528E-1
9.060E+5	2.166E+3	7.124E+3	3.591E-1
9.934E+5	2.042E+3	6.625E+3	3.661E-1
1.089E+6	1.952E+3	6.155E+3	3.729E-1
1.194E+6	1.830E+3	5.726E+3	3.804E-1
1.310E+6	1.738E+3	5.344E+3	3.893E-1
1.436E+6	1.647E+3	4.973E+3	3.973E-1
1.574E+6	1.536E+3	4.629E+3	4.054E-1
1.726E+6	1.446E+3	4.317E+3	4.146E-1
1.893E+6	1.349E+3	4.025E+3	4.238E-1
2.075E+6	1.262E+3	3.745E+3	4.324E-1
2.276E+6	1.173E+3	3.490E+3	4.418E-1
2.495E+6	1.105E+3	3.256E+3	4.519E-1
2.736E+6	1.002E+3	3.028E+3	4.608E-1
3.000E+6	9.336E+2	2.829E+3	4.722E-1
3.289E+6	8.655E+2	2.629E+3	4.811E-1
3.607E+6	8.041E+2	2.450E+3	4.916E-1
3.955E+6	7.412E+2	2.276E+3	5.008E-1
4.336E+6	6.795E+2	2.116E+3	5.106E-1
4.755E+6	6.307E+2	1.965E+3	5.197E-1
5.213E+6	5.799E+2	1.831E+3	5.311E-1
5.716E+6	5.335E+2	1.692E+3	5.382E-1
6.268E+6	4.954E+2	1.579E+3	5.505E-1
6.873E+6	4.547E+2	1.464E+3	5.596E-1
7.536E+6	4.156E+2	1.359E+3	5.696E-1
8.263E+6	3.831E+2	1.262E+3	5.799E-1

Colon

Frequency (Hz)	Ovine @ 30°C Current study measurements ε′	ε″	σ (S/m)
9.060E+6	3.558E+2	1.164E+3	5.869E-1
9.934E+6	3.279E+2	1.083E+3	5.988E-1
1.089E+7	3.047E+2	1.000E+3	6.060E-1
1.194E+7	2.824E+2	9.288E+2	6.171E-1
1.310E+7	2.595E+2	8.585E+2	6.254E-1
1.436E+7	2.408E+2	7.964E+2	6.362E-1
1.574E+7	2.282E+2	7.355E+2	6.442E-1
1.726E+7	2.079E+2	6.783E+2	6.515E-1
1.893E+7	1.903E+2	6.264E+2	6.596E-1
2.075E+7	1.804E+2	5.788E+2	6.683E-1
2.276E+7	1.697E+2	5.354E+2	6.778E-1
2.495E+7	1.600E+2	4.940E+2	6.858E-1
2.736E+7	1.508E+2	4.548E+2	6.923E-1
3.000E+7	1.403E+2	4.211E+2	7.028E-1
3.289E+7	1.326E+2	3.883E+2	7.105E-1
3.607E+7	1.260E+2	3.576E+2	7.176E-1
3.955E+7	1.204E+2	3.295E+2	7.251E-1
4.336E+7	1.143E+2	3.056E+2	7.371E-1
4.755E+7	1.092E+2	2.819E+2	7.457E-1
5.213E+7	1.039E+2	2.595E+2	7.525E-1
5.716E+7	1.004E+2	2.396E+2	7.619E-1
6.268E+7	9.627E+1	2.210E+2	7.708E-1
6.873E+7	9.217E+1	2.037E+2	7.788E-1
7.536E+7	8.887E+1	1.878E+2	7.872E-1
8.263E+7	8.573E+1	1.732E+2	7.962E-1
9.060E+7	8.311E+1	1.593E+2	8.028E-1
9.934E+7	8.031E+1	1.474E+2	8.145E-1
1.089E+8	7.766E+1	1.356E+2	8.215E-1
1.194E+8	7.554E+1	1.249E+2	8.298E-1
1.310E+8	7.339E+1	1.149E+2	8.373E-1
1.436E+8	7.197E+1	1.060E+2	8.471E-1
1.574E+8	7.046E+1	9.763E+1	8.552E-1
1.726E+8	6.891E+1	8.970E+1	8.615E-1
1.893E+8	6.781E+1	8.254E+1	8.692E-1
2.075E+8	6.670E+1	7.592E+1	8.766E-1
2.276E+8	6.556E+1	7.014E+1	8.880E-1
2.495E+8	6.463E+1	6.453E+1	8.958E-1
2.736E+8	6.381E+1	5.960E+1	9.071E-1
3.000E+8	6.323E+1	5.484E+1	9.152E-1
3.289E+8	6.244E+1	5.051E+1	9.244E-1
3.607E+8	6.180E+1	4.663E+1	9.357E-1
3.955E+8	6.128E+1	4.315E+1	9.493E-1
4.336E+8	6.088E+1	3.980E+1	9.600E-1
4.755E+8	6.038E+1	3.688E+1	9.755E-1
5.213E+8	6.001E+1	3.422E+1	9.925E-1
5.716E+8	5.960E+1	3.172E+1	1.009E+0
6.268E+8	5.936E+1	2.961E+1	1.033E+0
6.873E+8	5.895E+1	2.768E+1	1.058E+0
7.536E+8	5.868E+1	2.587E+1	1.085E+0
8.263E+8	5.834E+1	2.446E+1	1.124E+0
9.060E+8	5.794E+1	2.300E+1	1.159E+0
9.934E+8	5.755E+1	2.177E+1	1.203E+0
1.089E+9	5.727E+1	2.081E+1	1.261E+0
1.194E+9	5.679E+1	1.975E+1	1.312E+0
1.310E+9	5.619E+1	1.891E+1	1.378E+0
1.436E+9	5.566E+1	1.791E+1	1.430E+0
1.574E+9	5.537E+1	1.691E+1	1.481E+0
1.726E+9	5.513E+1	1.608E+1	1.545E+0
1.893E+9	5.524E+1	1.555E+1	1.637E+0
2.075E+9	5.544E+1	1.552E+1	1.792E+0

Frequency (Hz)	Ovine @ 30°C Current study measurements ε′	ε″	σ (S/m)
2.181E+9	5.791E+1	1.598E+1	1.939E+0
2.294E+9	5.769E+1	1.590E+1	2.029E+0
2.412E+9	5.752E+1	1.591E+1	2.136E+0
2.537E+9	5.739E+1	1.584E+1	2.236E+0
2.668E+9	5.722E+1	1.583E+1	2.350E+0
2.806E+9	5.706E+1	1.580E+1	2.467E+0
2.951E+9	5.683E+1	1.587E+1	2.606E+0
3.103E+9	5.664E+1	1.608E+1	2.776E+0
3.263E+9	5.630E+1	1.619E+1	2.939E+0
3.432E+9	5.601E+1	1.630E+1	3.112E+0
3.609E+9	5.588E+1	1.645E+1	3.303E+0
3.796E+9	5.558E+1	1.662E+1	3.510E+0
3.992E+9	5.532E+1	1.695E+1	3.764E+0
4.198E+9	5.509E+1	1.727E+1	4.032E+0
4.415E+9	5.471E+1	1.763E+1	4.329E+0
4.643E+9	5.443E+1	1.797E+1	4.642E+0
4.883E+9	5.394E+1	1.844E+1	5.008E+0
5.135E+9	5.343E+1	1.894E+1	5.410E+0
5.400E+9	5.273E+1	1.934E+1	5.810E+0
5.679E+9	5.228E+1	1.972E+1	6.231E+0
5.972E+9	5.161E+1	2.005E+1	6.662E+0
6.281E+9	5.104E+1	2.045E+1	7.144E+0
6.605E+9	5.044E+1	2.073E+1	7.619E+0
6.946E+9	4.977E+1	2.131E+1	8.236E+0
7.305E+9	4.909E+1	2.168E+1	8.811E+0
7.682E+9	4.834E+1	2.216E+1	9.471E+0
8.079E+9	4.748E+1	2.266E+1	1.019E+1
8.496E+9	4.663E+1	2.312E+1	1.093E+1
8.935E+9	4.563E+1	2.355E+1	1.171E+1
9.397E+9	4.478E+1	2.387E+1	1.248E+1
9.882E+9	4.360E+1	2.421E+1	1.331E+1
1.039E+10	4.239E+1	2.440E+1	1.411E+1
1.093E+10	4.144E+1	2.468E+1	1.501E+1
1.149E+10	4.038E+1	2.476E+1	1.583E+1
1.209E+10	3.933E+1	2.518E+1	1.693E+1
1.271E+10	3.812E+1	2.511E+1	1.776E+1
1.337E+10	3.708E+1	2.527E+1	1.879E+1
1.406E+10	3.584E+1	2.533E+1	1.981E+1
1.478E+10	3.477E+1	2.522E+1	2.074E+1
1.555E+10	3.364E+1	2.510E+1	2.171E+1
1.635E+10	3.256E+1	2.495E+1	2.269E+1
1.720E+10	3.132E+1	2.489E+1	2.381E+1
1.808E+10	3.004E+1	2.477E+1	2.492E+1
1.902E+10	2.910E+1	2.446E+1	2.587E+1
2.000E+10	2.796E+1	2.421E+1	2.694E+1

Cornea

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.090E+6	4.743E+3	8.795E+3	5.300E-1
1.310E+6	3.703E+3	7.998E+3	5.800E-1
1.570E+6	2.900E+3	7.132E+3	6.200E-1
1.890E+6	2.271E+3	6.199E+3	6.500E-1
2.280E+6	1.830E+3	5.352E+3	6.800E-1
2.740E+6	1.388E+3	4.549E+3	6.900E-1
3.290E+6	1.085E+3	3.870E+3	7.100E-1
3.950E+6	8.846E+2	3.327E+3	7.300E-1
4.750E+6	7.138E+2	2.878E+3	7.600E-1
5.720E+6	5.572E+2	2.459E+3	7.800E-1
6.870E+6	4.120E+2	2.075E+3	7.900E-1
8.260E+6	3.194E+2	1.747E+3	8.000E-1
9.930E+6	2.623E+2	1.468E+3	8.100E-1
1.190E+7	2.194E+2	1.236E+3	8.200E-1
1.440E+7	1.836E+2	1.041E+3	8.300E-1
1.730E+7	1.551E+2	8.750E+2	8.400E-1
2.080E+7	1.336E+2	7.367E+2	8.500E-1
2.500E+7	1.172E+2	6.191E+2	8.600E-1
3.000E+7	1.048E+2	5.214E+2	8.700E-1
3.610E+7	9.550E+1	4.391E+2	8.800E-1
4.340E+7	8.750E+1	3.685E+2	8.900E-1
5.210E+7	8.100E+1	3.093E+2	9.000E-1
6.270E+7	7.600E+1	2.596E+2	9.100E-1
7.540E+7	7.200E+1	2.177E+2	9.100E-1
9.060E+7	6.870E+1	1.830E+2	9.200E-1
1.090E+8	6.570E+1	1.542E+2	9.300E-1
1.310E+8	6.310E+1	1.302E+2	9.500E-1
1.570E+8	6.130E+1	1.099E+2	9.600E-1
1.890E+8	5.950E+1	9.270E+1	9.800E-1
2.280E+8	5.800E+1	7.840E+1	9.900E-1
2.740E+8	5.660E+1	6.640E+1	1.010E+0
2.910E+8	5.660E+1	6.330E+1	1.020E+0
3.220E+8	5.600E+1	5.780E+1	1.040E+0
3.560E+8	5.540E+1	5.290E+1	1.050E+0
3.940E+8	5.490E+1	4.840E+1	1.060E+0
4.350E+8	5.440E+1	4.440E+1	1.070E+0
4.810E+8	5.400E+1	4.070E+1	1.090E+0
5.330E+8	5.360E+1	3.730E+1	1.110E+0
5.890E+8	5.330E+1	3.430E+1	1.120E+0
6.510E+8	5.310E+1	3.170E+1	1.150E+0
7.200E+8	5.280E+1	2.930E+1	1.180E+0
7.970E+8	5.250E+1	2.710E+1	1.200E+0
8.810E+8	5.210E+1	2.520E+1	1.230E+0
9.740E+8	5.180E+1	2.340E+1	1.270E+0
1.080E+9	5.160E+1	2.200E+1	1.320E+0
1.190E+9	5.140E+1	2.060E+1	1.370E+0
1.320E+9	5.110E+1	1.940E+1	1.430E+0
1.460E+9	5.080E+1	1.840E+1	1.490E+0
1.610E+9	5.050E+1	1.750E+1	1.570E+0
1.780E+9	5.020E+1	1.680E+1	1.670E+0
1.970E+9	5.000E+1	1.620E+1	1.780E+0
2.180E+9	4.970E+1	1.590E+1	1.930E+0
2.410E+9	4.940E+1	1.560E+1	2.100E+0
2.670E+9	4.900E+1	1.560E+1	2.310E+0
2.950E+9	4.840E+1	1.540E+1	2.540E+0
3.260E+9	4.790E+1	1.530E+1	2.780E+0
3.610E+9	4.750E+1	1.530E+1	3.080E+0
3.990E+9	4.700E+1	1.550E+1	3.440E+0
4.410E+9	4.650E+1	1.590E+1	3.900E+0
4.880E+9	4.580E+1	1.640E+1	4.440E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
5.400E+9	4.500E+1	1.690E+1	5.070E+0
5.970E+9	4.410E+1	1.740E+1	5.780E+0
6.600E+9	4.300E+1	1.790E+1	6.590E+0
7.300E+9	4.190E+1	1.850E+1	7.520E+0
8.080E+9	4.060E+1	1.900E+1	8.550E+0
8.940E+9	3.930E+1	1.940E+1	9.650E+0
9.880E+9	3.790E+1	1.970E+1	1.083E+1
1.090E+10	3.650E+1	2.000E+1	1.216E+1
1.210E+10	3.530E+1	2.050E+1	1.376E+1
1.340E+10	3.400E+1	2.070E+1	1.540E+1
1.480E+10	3.260E+1	2.100E+1	1.724E+1
1.640E+10	3.120E+1	2.190E+1	1.995E+1
1.810E+10	2.960E+1	2.330E+1	2.345E+1
2.000E+10	2.800E+1	2.460E+1	2.741E+1

Dura

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.300E+8	6.024E+1	8.938E+1	6.500E-1
1.440E+8	5.833E+1	8.326E+1	6.700E-1
1.590E+8	5.800E+1	7.639E+1	6.800E-1
1.760E+8	5.711E+1	7.007E+1	6.900E-1
1.940E+8	5.580E+1	6.439E+1	7.000E-1
2.150E+8	5.524E+1	5.960E+1	7.100E-1
2.380E+8	5.479E+1	5.504E+1	7.300E-1
2.630E+8	5.415E+1	4.983E+1	7.300E-1
2.910E+8	5.327E+1	4.568E+1	7.400E-1
3.220E+8	5.270E+1	4.245E+1	7.600E-1
3.560E+8	5.223E+1	3.902E+1	7.700E-1
3.940E+8	5.167E+1	3.563E+1	7.800E-1
4.350E+8	5.103E+1	3.283E+1	8.000E-1
4.810E+8	5.036E+1	3.041E+1	8.100E-1
5.330E+8	5.013E+1	2.825E+1	8.400E-1
5.890E+8	4.996E+1	2.601E+1	8.500E-1
6.510E+8	4.959E+1	2.388E+1	8.700E-1
7.200E+8	4.912E+1	2.214E+1	8.900E-1
7.970E+8	4.863E+1	2.070E+1	9.200E-1
8.810E+8	4.846E+1	1.969E+1	9.700E-1
9.740E+8	4.821E+1	1.864E+1	1.010E+0
1.080E+9	4.775E+1	1.769E+1	1.060E+0
1.190E+9	4.747E+1	1.687E+1	1.120E+0
1.320E+9	4.721E+1	1.604E+1	1.180E+0
1.460E+9	4.684E+1	1.516E+1	1.230E+0
1.610E+9	4.651E+1	1.459E+1	1.310E+0
1.780E+9	4.617E+1	1.438E+1	1.430E+0
1.970E+9	4.583E+1	1.411E+1	1.550E+0
2.180E+9	4.534E+1	1.369E+1	1.660E+0
2.410E+9	4.484E+1	1.352E+1	1.810E+0
2.670E+9	4.435E+1	1.358E+1	2.020E+0
2.950E+9	4.396E+1	1.365E+1	2.240E+0
3.260E+9	4.361E+1	1.371E+1	2.490E+0
3.610E+9	4.321E+1	1.385E+1	2.780E+0
3.990E+9	4.266E+1	1.417E+1	3.150E+0
4.410E+9	4.202E+1	1.445E+1	3.550E+0
4.880E+9	4.141E+1	1.478E+1	4.020E+0
5.400E+9	4.069E+1	1.524E+1	4.580E+0
5.970E+9	3.987E+1	1.572E+1	5.220E+0
6.600E+9	3.893E+1	1.621E+1	5.960E+0
7.300E+9	3.792E+1	1.677E+1	6.810E+0
8.080E+9	3.685E+1	1.734E+1	7.790E+0
8.940E+9	3.565E+1	1.785E+1	8.870E+0
9.880E+9	3.448E+1	1.821E+1	1.001E+1
1.090E+10	3.334E+1	1.861E+1	1.132E+1
1.210E+10	3.190E+1	1.909E+1	1.284E+1
1.340E+10	3.027E+1	1.963E+1	1.460E+1
1.480E+10	2.862E+1	2.002E+1	1.647E+1
1.640E+10	2.702E+1	2.028E+1	1.845E+1
1.810E+10	2.536E+1	2.072E+1	2.085E+1
2.000E+10	2.354E+1	2.124E+1	2.364E+1

Eye Tissues

Frequency (Hz)	Ovine (Sclera) @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.090E+6	3.115E+3	1.025E+4	6.200E-1
1.310E+6	2.407E+3	8.901E+3	6.500E-1
1.570E+6	1.853E+3	7.789E+3	6.800E-1
1.890E+6	1.489E+3	6.665E+3	7.000E-1
2.280E+6	1.243E+3	5.618E+3	7.100E-1
2.740E+6	9.377E+2	4.702E+3	7.200E-1
3.290E+6	7.362E+2	3.945E+3	7.200E-1
3.950E+6	6.205E+2	3.336E+3	7.300E-1
4.750E+6	5.146E+2	2.843E+3	7.500E-1
5.720E+6	4.076E+2	2.414E+3	7.700E-1
6.870E+6	3.112E+2	2.034E+3	7.800E-1
8.260E+6	2.482E+2	1.711E+3	7.900E-1
9.930E+6	2.100E+2	1.431E+3	7.900E-1
1.190E+7	1.822E+2	1.199E+3	8.000E-1
1.440E+7	1.569E+2	1.009E+3	8.100E-1
1.730E+7	1.385E+2	8.481E+2	8.100E-1
2.080E+7	1.239E+2	7.134E+2	8.200E-1
2.500E+7	1.114E+2	5.996E+2	8.300E-1
3.000E+7	1.012E+2	5.048E+2	8.400E-1
3.610E+7	9.360E+1	4.250E+2	8.500E-1
4.340E+7	8.690E+1	3.570E+2	8.600E-1
5.210E+7	8.100E+1	3.002E+2	8.700E-1
6.270E+7	7.630E+1	2.524E+2	8.800E-1
7.540E+7	7.240E+1	2.120E+2	8.900E-1
9.060E+7	6.910E+1	1.785E+2	9.000E-1
1.090E+8	6.600E+1	1.505E+2	9.100E-1
1.310E+8	6.360E+1	1.270E+2	9.300E-1
1.570E+8	6.170E+1	1.072E+2	9.400E-1
1.890E+8	6.000E+1	9.040E+1	9.500E-1
2.280E+8	5.840E+1	7.640E+1	9.700E-1
2.740E+8	5.710E+1	6.470E+1	9.800E-1
3.290E+8	5.600E+1	5.480E+1	1.000E+0
3.950E+8	5.500E+1	4.660E+1	1.030E+0
4.750E+8	5.410E+1	3.980E+1	1.050E+0
5.720E+8	5.340E+1	3.410E+1	1.080E+0
6.870E+8	5.270E+1	2.940E+1	1.120E+0
8.260E+8	5.210E+1	2.540E+1	1.170E+0
9.930E+8	5.140E+1	2.210E+1	1.220E+0
1.190E+9	5.090E+1	1.940E+1	1.290E+0
1.300E+8	6.451E+1	1.233E+2	8.900E-1
1.440E+8	6.460E+1	1.118E+2	8.900E-1
1.590E+8	6.420E+1	1.017E+2	9.000E-1
1.760E+8	6.322E+1	9.213E+1	9.000E-1
1.940E+8	6.215E+1	8.393E+1	9.100E-1
2.150E+8	6.179E+1	7.704E+1	9.200E-1
2.380E+8	6.124E+1	7.058E+1	9.300E-1
2.630E+8	6.063E+1	6.412E+1	9.400E-1
2.910E+8	6.001E+1	5.858E+1	9.500E-1
3.220E+8	5.914E+1	5.391E+1	9.700E-1
3.560E+8	5.844E+1	4.941E+1	9.800E-1
3.940E+8	5.804E+1	4.523E+1	9.900E-1
4.350E+8	5.769E+1	4.156E+1	1.010E+0
4.810E+8	5.711E+1	3.809E+1	1.020E+0
5.330E+8	5.658E+1	3.498E+1	1.040E+0
5.890E+8	5.630E+1	3.222E+1	1.060E+0
6.510E+8	5.607E+1	2.973E+1	1.080E+0
7.200E+8	5.573E+1	2.762E+1	1.110E+0
7.970E+8	5.523E+1	2.570E+1	1.140E+0
8.810E+8	5.490E+1	2.395E+1	1.170E+0
9.740E+8	5.451E+1	2.243E+1	1.220E+0

Frequency (Hz)	Ovine (Sclera) @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.080E+9	5.418E+1	2.117E+1	1.270E+0
1.190E+9	5.410E+1	2.004E+1	1.330E+0
1.320E+9	5.390E+1	1.901E+1	1.390E+0
1.460E+9	5.354E+1	1.812E+1	1.470E+0
1.610E+9	5.314E+1	1.739E+1	1.560E+0
1.780E+9	5.272E+1	1.679E+1	1.670E+0
1.970E+9	5.240E+1	1.629E+1	1.790E+0
2.180E+9	5.213E+1	1.597E+1	1.940E+0
2.410E+9	5.175E+1	1.577E+1	2.120E+0
2.670E+9	5.129E+1	1.566E+1	2.320E+0
2.950E+9	5.085E+1	1.564E+1	2.570E+0
3.260E+9	5.045E+1	1.568E+1	2.850E+0
3.610E+9	5.004E+1	1.589E+1	3.190E+0
3.990E+9	4.958E+1	1.633E+1	3.630E+0
4.410E+9	4.896E+1	1.690E+1	4.150E+0
4.880E+9	4.811E+1	1.755E+1	4.770E+0
5.400E+9	4.706E+1	1.829E+1	5.500E+0
5.970E+9	4.591E+1	1.897E+1	6.300E+0
6.600E+9	4.470E+1	1.957E+1	7.190E+0
7.300E+9	4.343E+1	2.016E+1	8.190E+0
8.080E+9	4.210E+1	2.082E+1	9.360E+0
8.940E+9	4.051E+1	2.147E+1	1.067E+1
9.880E+9	3.881E+1	2.192E+1	1.205E+1
1.090E+10	3.710E+1	2.224E+1	1.352E+1
1.210E+10	3.532E+1	2.251E+1	1.513E+1
1.340E+10	3.358E+1	2.263E+1	1.683E+1
1.480E+10	3.178E+1	2.266E+1	1.864E+1
1.640E+10	2.994E+1	2.276E+1	2.070E+1
1.810E+10	2.810E+1	2.292E+1	2.306E+1
2.000E+10	2.624E+1	2.310E+1	2.570E+1

Fat

Frequency (Hz)	Bovine Fat @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	1.060E+7	2.621E+7	1.458E-2
1.122E+1	9.682E+6	2.416E+7	1.508E-2
1.259E+1	8.646E+6	2.233E+7	1.564E-2
1.350E+1	7.698E+6	2.058E+7	1.617E-2
1.585E+1	6.803E+6	1.892E+7	1.669E-2
1.778E+1	5.965E+6	1.737E+7	1.719E-2
1.995E+1	5.214E+6	1.594E+7	1.770E-2
2.239E+1	4.528E+6	1.458E+7	1.816E-2
2.512E+1	3.916E+6	1.332E+7	1.861E-2
2.818E+1	3.376E+6	1.214E+7	1.903E-2
3.162E+1	2.899E+6	1.105E+7	1.943E-2
3.548E+1	2.484E+6	1.004E+7	1.981E-2
3.981E+1	2.126E+6	9.104E+6	2.016E-2
4.467E+1	1.808E+6	8.250E+6	2.050E-2
5.012E+1	1.538E+6	7.464E+6	2.081E-2
5.623E+1	1.306E+6	6.745E+6	2.110E-2
6.310E+1	1.108E+6	6.088E+6	2.137E-2
7.079E+1	9.387E+5	5.490E+6	2.162E-2
7.943E+1	7.937E+5	4.947E+6	2.186E-2
8.913E+1	6.714E+5	4.452E+6	2.208E-2
1.000E+2	5.671E+5	4.005E+6	2.228E-2
1.122E+2	4.804E+5	3.600E+6	2.247E-2
1.259E+2	4.038E+5	3.232E+6	2.264E-2
1.413E+2	3.417E+5	2.903E+6	2.281E-2
1.585E+2	2.887E+5	2.606E+6	2.297E-2
1.778E+2	2.438E+5	2.337E+6	2.312E-2
1.995E+2	2.059E+5	2.095E+6	2.325E-2
2.239E+2	1.740E+5	1.878E+6	2.338E-2
2.512E+2	1.469E+5	1.682E+6	2.350E-2
2.818E+2	1.245E+5	1.507E+6	2.362E-2
3.162E+2	1.051E+5	1.349E+6	2.373E-2
3.548E+2	8.914E+4	1.207E+6	2.383E-2
3.981E+2	7.554E+4	1.081E+6	2.393E-2
4.467E+2	6.414E+4	9.666E+5	2.402E-2
5.012E+2	5.436E+4	8.647E+5	2.411E-2
5.623E+2	4.619E+4	7.733E+5	2.419E-2
6.310E+2	3.929E+4	6.915E+5	2.427E-2
7.079E+2	3.343E+4	6.183E+5	2.435E-2
7.943E+2	2.849E+4	5.527E+5	2.442E-2
8.913E+2	2.431E+4	4.940E+5	2.449E-2
1.000E+3	2.076E+4	4.415E+5	2.456E-2
1.122E+3	1.779E+4	3.945E+5	2.463E-2
1.259E+3	1.524E+4	3.526E+5	2.469E-2
1.413E+3	1.308E+4	3.150E+5	2.475E-2
1.585E+3	1.123E+4	2.814E+5	2.481E-2
1.778E+3	9.649E+3	2.514E+5	2.487E-2
1.995E+3	8.359E+3	2.246E+5	2.493E-2
2.239E+3	7.191E+3	2.006E+5	2.498E-2
2.512E+3	6.202E+3	1.791E+5	2.503E-2
2.818E+3	5.362E+3	1.600E+5	2.509E-2
3.162E+3	4.642E+3	1.429E+5	2.514E-2
3.548E+3	4.022E+3	1.276E+5	2.518E-2
3.981E+3	3.486E+3	1.139E+5	2.523E-2
4.467E+3	3.024E+3	1.017E+5	2.528E-2
5.012E+3	2.629E+3	9.083E+4	2.533E-2
5.623E+3	2.287E+3	8.109E+4	2.537E-2
6.310E+3	1.987E+3	7.238E+4	2.541E-2
7.079E+3	1.729E+3	6.462E+4	2.545E-2
7.943E+3	1.506E+3	5.768E+4	2.549E-2
8.913E+3	1.312E+3	5.149E+4	2.553E-2

Frequency (Hz)	Bovine Fat @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	1.144E+3	4.596E+4	2.557E-2
1.122E+4	1.003E+3	4.102E+4	2.561E-2
1.259E+4	8.765E+2	3.661E+4	2.564E-2
1.413E+4	7.665E+2	3.268E+4	2.568E-2
1.585E+4	6.708E+2	2.917E+4	2.572E-2
1.778E+4	5.873E+2	2.603E+4	2.575E-2
1.995E+4	5.140E+2	2.323E+4	2.578E-2
2.239E+4	4.512E+2	2.073E+4	2.581E-2
2.512E+4	3.953E+2	1.849E+4	2.585E-2
2.818E+4	3.473E+2	1.651E+4	2.588E-2
3.162E+4	3.052E+2	1.473E+4	2.591E-2
3.548E+4	2.695E+2	1.314E+4	2.593E-2
3.981E+4	2.378E+2	1.172E+4	2.596E-2
4.467E+4	2.105E+2	1.046E+4	2.599E-2
5.012E+4	1.868E+2	9.331E+3	2.602E-2
5.623E+4	1.655E+2	8.325E+3	2.604E-2
6.310E+4	1.477E+2	7.426E+3	2.607E-2
7.079E+4	1.314E+2	6.625E+3	2.609E-2
7.943E+4	1.177E+2	5.909E+3	2.611E-2
8.913E+4	1.059E+2	5.272E+3	2.614E-2
1.000E+5	9.535E+1	4.702E+3	2.616E-2
1.122E+5	8.610E+1	4.195E+3	2.619E-2
1.259E+5	7.817E+1	3.742E+3	2.621E-2
1.413E+5	7.117E+1	3.337E+3	2.623E-2
1.585E+5	6.511E+1	2.977E+3	2.625E-2
1.778E+5	5.968E+1	2.656E+3	2.627E-2
1.995E+5	5.499E+1	2.369E+3	2.629E-2
2.239E+5	5.084E+1	2.113E+3	2.632E-2
2.512E+5	4.721E+1	1.885E+3	2.634E-2
2.818E+5	4.401E+1	1.681E+3	2.636E-2
3.162E+5	4.113E+1	1.500E+3	2.639E-2
3.548E+5	3.859E+1	1.338E+3	2.641E-2
3.981E+5	3.631E+1	1.193E+3	2.643E-2
4.467E+5	3.429E+1	1.065E+3	2.646E-2
5.012E+5	3.250E+1	9.499E+2	2.649E-2
5.623E+5	3.081E+1	8.476E+2	2.652E-2
6.310E+5	2.938E+1	7.562E+2	2.654E-2
7.079E+5	2.804E+1	6.749E+2	2.658E-2
7.943E+5	2.680E+1	6.021E+2	2.661E-2
8.913E+5	2.573E+1	5.374E+2	2.665E-2
1.000E+6	2.474E+1	4.796E+2	2.668E-2
1.122E+6	2.380E+1	4.281E+2	2.672E-2
1.259E+6	2.296E+1	3.821E+2	2.676E-2
1.413E+6	2.217E+1	3.411E+2	2.680E-2
1.585E+6	2.143E+1	3.046E+2	2.686E-2
1.778E+6	2.076E+1	2.719E+2	2.690E-2
1.995E+6	2.008E+1	2.428E+2	2.695E-2
2.239E+6	1.951E+1	2.171E+2	2.704E-2
2.512E+6	1.889E+1	1.937E+2	2.707E-2
2.818E+6	1.842E+1	1.730E+2	2.713E-2
3.162E+6	1.794E+1	1.545E+2	2.718E-2
3.548E+6	1.752E+1	1.379E+2	2.722E-2
3.981E+6	1.716E+1	1.231E+2	2.727E-2
4.467E+6	1.684E+1	1.100E+2	2.734E-2
5.012E+6	1.655E+1	9.820E+1	2.738E-2
5.623E+6	1.632E+1	8.760E+1	2.741E-2
6.310E+6	1.616E+1	7.814E+1	2.743E-2
7.079E+6	1.609E+1	6.963E+1	2.742E-2
7.943E+6	1.575E+1	6.211E+1	2.745E-2
8.913E+6	1.550E+1	5.523E+1	2.738E-2

Fat

Frequency (Hz)	Bovine Fat @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+7	1.525E+1	4.913E+1	2.733E-2
1.089E+7	1.500E+1	4.456E+1	2.700E-2
1.194E+7	1.475E+1	4.064E+1	2.700E-2
1.310E+7	1.450E+1	3.706E+1	2.700E-2
1.436E+7	1.328E+1	3.380E+1	2.700E-2
1.574E+7	1.279E+1	3.083E+1	2.700E-2
1.726E+7	1.251E+1	2.811E+1	2.700E-2
1.893E+7	1.152E+1	2.564E+1	2.700E-2
2.075E+7	1.131E+1	2.338E+1	2.700E-2
2.276E+7	1.066E+1	2.133E+1	2.700E-2
2.495E+7	1.025E+1	1.945E+1	2.700E-2
2.736E+7	1.008E+1	1.774E+1	2.700E-2
3.000E+7	9.465E+0	1.618E+1	2.700E-2
3.289E+7	8.883E+0	1.475E+1	2.700E-2
3.607E+7	8.808E+0	1.346E+1	2.700E-2
3.955E+7	8.322E+0	1.227E+1	2.700E-2
4.336E+7	8.141E+0	1.145E+1	2.763E-2
4.755E+7	7.745E+0	1.040E+1	2.751E-2
5.213E+7	7.580E+0	9.746E+0	2.827E-2
5.716E+7	7.314E+0	9.049E+0	2.878E-2
6.268E+7	7.267E+0	8.401E+0	2.929E-2
6.873E+7	6.956E+0	7.852E+0	3.002E-2
7.536E+7	6.790E+0	7.342E+0	3.078E-2
8.263E+7	6.640E+0	6.764E+0	3.109E-2
9.060E+7	6.518E+0	6.244E+0	3.147E-2
9.934E+7	6.290E+0	5.887E+0	3.254E-2
1.089E+8	6.249E+0	5.402E+0	3.273E-2
1.194E+8	6.087E+0	4.976E+0	3.306E-2
1.310E+8	5.947E+0	4.718E+0	3.437E-2
1.436E+8	5.788E+0	4.304E+0	3.438E-2
1.574E+8	5.791E+0	4.078E+0	3.572E-2
1.726E+8	5.662E+0	3.798E+0	3.648E-2
1.893E+8	5.561E+0	3.487E+0	3.672E-2
2.075E+8	5.502E+0	3.289E+0	3.798E-2
2.276E+8	5.415E+0	3.062E+0	3.877E-2
2.495E+8	5.340E+0	2.804E+0	3.892E-2
2.736E+8	5.257E+0	2.635E+0	4.010E-2
3.000E+8	5.218E+0	2.504E+0	4.178E-2
3.289E+8	5.141E+0	2.258E+0	4.131E-2
3.607E+8	5.110E+0	2.133E+0	4.281E-2
3.955E+8	5.079E+0	1.997E+0	4.393E-2
4.336E+8	5.028E+0	1.866E+0	4.502E-2
4.755E+8	4.999E+0	1.759E+0	4.652E-2
5.213E+8	4.941E+0	1.651E+0	4.790E-2
5.716E+8	4.941E+0	1.550E+0	4.930E-2
6.268E+8	4.877E+0	1.472E+0	5.132E-2
6.873E+8	4.862E+0	1.334E+0	5.100E-2
7.536E+8	4.870E+0	1.240E+0	5.200E-2
8.263E+8	4.830E+0	1.131E+0	5.200E-2
9.060E+8	4.782E+0	1.052E+0	5.300E-2
9.934E+8	4.725E+0	9.771E-1	5.400E-2
1.089E+9	4.754E+0	9.076E-1	5.500E-2
1.133E+9	4.533E+0	8.723E-1	5.500E-2
1.192E+9	4.590E+0	8.445E-1	5.600E-2
1.254E+9	4.495E+0	8.102E-1	5.650E-2
1.318E+9	4.426E+0	7.772E-1	5.700E-2
1.386E+9	4.662E+0	7.623E-1	5.880E-2
1.458E+9	4.438E+0	7.397E-1	6.000E-2
1.533E+9	4.490E+0	7.131E-1	6.083E-2
1.612E+9	4.465E+0	6.787E-1	6.089E-2

Frequency (Hz)	Bovine Fat @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.696E+9	4.446E+0	6.678E-1	6.300E-2
1.783E+9	4.508E+0	6.713E-1	6.660E-2
1.875E+9	4.503E+0	6.488E-1	6.769E-2
1.972E+9	4.445E+0	6.552E-1	7.189E-2
2.074E+9	4.490E+0	6.458E-1	7.452E-2
2.181E+9	4.483E+0	6.345E-1	7.700E-2
2.294E+9	4.454E+0	6.300E-1	8.040E-2
2.412E+9	4.394E+0	5.971E-1	8.014E-2
2.537E+9	4.400E+0	5.840E-1	8.242E-2
2.668E+9	4.429E+0	6.435E-1	9.551E-2
2.806E+9	4.404E+0	5.968E-1	9.316E-2
2.951E+9	4.405E+0	6.129E-1	1.006E-1
3.103E+9	4.420E+0	6.508E-1	1.124E-1
3.263E+9	4.426E+0	6.225E-1	1.130E-1
3.432E+9	4.408E+0	6.287E-1	1.200E-1
3.609E+9	4.397E+0	6.331E-1	1.271E-1
3.796E+9	4.383E+0	6.405E-1	1.352E-1
3.992E+9	4.362E+0	6.542E-1	1.453E-1
4.198E+9	4.399E+0	6.706E-1	1.566E-1
4.415E+9	4.356E+0	6.929E-1	1.702E-1
4.643E+9	4.362E+0	7.314E-1	1.889E-1
4.883E+9	4.325E+0	7.526E-1	2.044E-1
5.135E+9	4.312E+0	7.691E-1	2.197E-1
5.400E+9	4.304E+0	7.850E-1	2.358E-1
5.679E+9	4.277E+0	8.095E-1	2.557E-1
5.972E+9	4.242E+0	8.438E-1	2.804E-1
6.281E+9	4.244E+0	8.649E-1	3.022E-1
6.605E+9	4.194E+0	8.986E-1	3.302E-1
6.946E+9	4.138E+0	9.162E-1	3.540E-1
7.305E+9	4.140E+0	9.497E-1	3.859E-1
7.682E+9	4.117E+0	9.917E-1	4.238E-1
8.079E+9	4.071E+0	9.760E-1	4.387E-1
8.496E+9	4.011E+0	1.008E+0	4.764E-1
8.935E+9	3.972E+0	1.026E+0	5.098E-1
9.397E+9	3.910E+0	1.047E+0	5.472E-1
9.882E+9	3.870E+0	1.063E+0	5.842E-1
1.039E+10	3.813E+0	1.066E+0	6.166E-1
1.093E+10	3.773E+0	1.087E+0	6.609E-1
1.149E+10	3.729E+0	1.085E+0	6.935E-1
1.209E+10	3.679E+0	1.076E+0	7.235E-1
1.271E+10	3.613E+0	1.089E+0	7.700E-1
1.337E+10	3.565E+0	1.086E+0	8.074E-1
1.406E+10	3.525E+0	1.080E+0	8.447E-1
1.478E+10	3.458E+0	1.069E+0	8.789E-1
1.555E+10	3.412E+0	1.076E+0	9.303E-1
1.635E+10	3.367E+0	1.055E+0	9.599E-1
1.720E+10	3.328E+0	1.040E+0	9.946E-1
1.808E+10	3.278E+0	1.041E+0	1.047E+0
1.902E+10	3.233E+0	1.027E+0	1.086E+0
2.000E+10	3.194E+0	1.018E+0	1.132E+0

Gall Bladder

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.194E+7	9.775E+1	1.176E+3	7.812E-1
1.310E+7	9.633E+1	1.075E+3	7.829E-1
1.436E+7	9.518E+1	9.769E+2	7.804E-1
1.574E+7	9.439E+1	8.917E+2	7.811E-1
1.726E+7	9.471E+1	8.157E+2	7.834E-1
1.893E+7	9.558E+1	7.449E+2	7.844E-1
2.075E+7	9.526E+1	6.817E+2	7.871E-1
2.276E+7	9.570E+1	6.226E+2	7.883E-1
2.495E+7	9.431E+1	5.687E+2	7.895E-1
2.736E+7	9.592E+1	5.205E+2	7.923E-1
3.000E+7	9.400E+1	4.777E+2	7.973E-1
3.289E+7	9.274E+1	4.377E+2	8.009E-1
3.607E+7	9.227E+1	4.010E+2	8.046E-1
3.955E+7	9.156E+1	3.678E+2	8.092E-1
4.336E+7	8.986E+1	3.370E+2	8.131E-1
4.755E+7	8.911E+1	3.105E+2	8.213E-1
5.213E+7	8.770E+1	2.854E+2	8.277E-1
5.716E+7	8.589E+1	2.625E+2	8.347E-1
6.268E+7	8.447E+1	2.416E+2	8.424E-1
6.873E+7	8.253E+1	2.225E+2	8.507E-1
7.536E+7	8.112E+1	2.048E+2	8.587E-1
8.263E+7	7.928E+1	1.884E+2	8.658E-1
9.060E+7	7.749E+1	1.737E+2	8.757E-1
9.934E+7	7.612E+1	1.601E+2	8.848E-1
1.089E+8	7.449E+1	1.472E+2	8.918E-1
1.194E+8	7.320E+1	1.354E+2	8.998E-1
1.310E+8	7.184E+1	1.249E+2	9.099E-1
1.436E+8	7.043E+1	1.148E+2	9.173E-1
1.574E+8	6.896E+1	1.058E+2	9.266E-1
1.726E+8	6.781E+1	9.732E+1	9.346E-1
1.893E+8	6.671E+1	8.961E+1	9.437E-1
2.075E+8	6.573E+1	8.261E+1	9.538E-1
2.276E+8	6.480E+1	7.611E+1	9.635E-1
2.495E+8	6.401E+1	6.991E+1	9.706E-1
2.736E+8	6.314E+1	6.438E+1	9.799E-1
3.000E+8	6.240E+1	5.932E+1	9.901E-1
3.289E+8	6.177E+1	5.472E+1	1.001E+0
3.607E+8	6.117E+1	5.035E+1	1.010E+0
3.955E+8	6.051E+1	4.633E+1	1.019E+0
4.336E+8	6.006E+1	4.289E+1	1.035E+0
4.354E+8	6.414E+1	5.253E+1	1.272E+0
4.578E+8	6.406E+1	5.054E+1	1.287E+0
4.815E+8	6.387E+1	4.838E+1	1.296E+0
5.064E+8	6.342E+1	4.625E+1	1.303E+0
5.325E+8	6.320E+1	4.454E+1	1.320E+0
5.600E+8	6.291E+1	4.234E+1	1.319E+0
5.889E+8	6.295E+1	4.039E+1	1.323E+0
6.194E+8	6.254E+1	3.898E+1	1.343E+0
6.513E+8	6.248E+1	3.754E+1	1.360E+0
6.850E+8	6.222E+1	3.588E+1	1.367E+0
7.204E+8	6.207E+1	3.454E+1	1.384E+0
7.576E+8	6.202E+1	3.329E+1	1.403E+0
7.967E+8	6.172E+1	3.178E+1	1.408E+0
8.378E+8	6.166E+1	3.073E+1	1.432E+0
8.811E+8	6.128E+1	2.948E+1	1.445E+0
9.266E+8	6.129E+1	2.844E+1	1.466E+0
9.745E+8	6.129E+1	2.737E+1	1.484E+0
1.025E+9	6.086E+1	2.653E+1	1.513E+0
1.078E+9	6.060E+1	2.556E+1	1.532E+0
1.133E+9	6.073E+1	2.466E+1	1.555E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.192E+9	6.045E+1	2.401E+1	1.592E+0
1.254E+9	6.028E+1	2.328E+1	1.624E+0
1.318E+9	6.017E+1	2.261E+1	1.658E+0
1.386E+9	5.998E+1	2.180E+1	1.681E+0
1.458E+9	5.988E+1	2.120E+1	1.720E+0
1.533E+9	5.965E+1	2.076E+1	1.771E+0
1.612E+9	5.957E+1	2.034E+1	1.825E+0
1.696E+9	5.938E+1	1.973E+1	1.861E+0
1.783E+9	5.926E+1	1.925E+1	1.910E+0
1.875E+9	5.907E+1	1.893E+1	1.975E+0
1.972E+9	5.890E+1	1.859E+1	2.040E+0
2.074E+9	5.873E+1	1.819E+1	2.099E+0
2.181E+9	5.858E+1	1.793E+1	2.176E+0
2.294E+9	5.835E+1	1.770E+1	2.259E+0
2.412E+9	5.811E+1	1.754E+1	2.354E+0
2.537E+9	5.800E+1	1.734E+1	2.447E+0
2.668E+9	5.782E+1	1.717E+1	2.549E+0
2.806E+9	5.768E+1	1.705E+1	2.662E+0
2.951E+9	5.740E+1	1.699E+1	2.790E+0
3.103E+9	5.722E+1	1.683E+1	2.905E+0
3.263E+9	5.702E+1	1.682E+1	3.054E+0
3.432E+9	5.686E+1	1.680E+1	3.208E+0
3.609E+9	5.651E+1	1.679E+1	3.372E+0
3.796E+9	5.655E+1	1.680E+1	3.548E+0
3.992E+9	5.635E+1	1.692E+1	3.757E+0
4.198E+9	5.621E+1	1.705E+1	3.983E+0
4.415E+9	5.591E+1	1.735E+1	4.261E+0
4.643E+9	5.574E+1	1.758E+1	4.541E+0
4.883E+9	5.562E+1	1.812E+1	4.923E+0
5.135E+9	5.518E+1	1.853E+1	5.294E+0
5.400E+9	5.496E+1	1.900E+1	5.709E+0
5.679E+9	5.437E+1	1.953E+1	6.169E+0
5.972E+9	5.370E+1	2.016E+1	6.698E+0
6.281E+9	5.298E+1	2.064E+1	7.212E+0
6.605E+9	5.214E+1	2.099E+1	7.712E+0
6.946E+9	5.144E+1	2.130E+1	8.230E+0
7.305E+9	5.078E+1	2.151E+1	8.743E+0
7.682E+9	5.019E+1	2.209E+1	9.442E+0
8.079E+9	4.931E+1	2.222E+1	9.988E+0
8.496E+9	4.855E+1	2.266E+1	1.071E+1
8.935E+9	4.774E+1	2.329E+1	1.158E+1
9.397E+9	4.697E+1	2.371E+1	1.240E+1
9.882E+9	4.570E+1	2.404E+1	1.321E+1
1.039E+10	4.466E+1	2.462E+1	1.423E+1
1.093E+10	4.333E+1	2.452E+1	1.491E+1
1.149E+10	4.239E+1	2.483E+1	1.588E+1
1.209E+10	4.129E+1	2.476E+1	1.665E+1
1.271E+10	4.038E+1	2.485E+1	1.757E+1
1.337E+10	3.913E+1	2.440E+1	1.815E+1
1.406E+10	3.797E+1	2.481E+1	1.941E+1
1.478E+10	3.690E+1	2.489E+1	2.047E+1
1.555E+10	3.611E+1	2.452E+1	2.121E+1
1.635E+10	3.514E+1	2.479E+1	2.255E+1
1.720E+10	3.384E+1	2.472E+1	2.365E+1
1.808E+10	3.300E+1	2.460E+1	2.475E+1
1.902E+10	3.186E+1	2.467E+1	2.610E+1
2.000E+10	3.090E+1	2.411E+1	2.682E+1

Gall Bladder Bile

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
2.075E+7	1.108E+2	1.151E+3	1.330E+0
2.276E+7	1.126E+2	1.050E+3	1.330E+0
2.495E+7	1.114E+2	9.579E+2	1.330E+0
2.736E+7	1.154E+2	8.757E+2	1.333E+0
3.000E+7	1.141E+2	8.020E+2	1.339E+0
3.289E+7	1.127E+2	7.337E+2	1.343E+0
3.607E+7	1.130E+2	6.714E+2	1.347E+0
3.955E+7	1.130E+2	6.150E+2	1.353E+0
4.336E+7	1.114E+2	5.628E+2	1.358E+0
4.755E+7	1.107E+2	5.179E+2	1.370E+0
5.213E+7	1.090E+2	4.749E+2	1.378E+0
5.716E+7	1.070E+2	4.360E+2	1.387E+0
6.268E+7	1.052E+2	4.004E+2	1.396E+0
6.873E+7	1.026E+2	3.680E+2	1.407E+0
7.536E+7	1.012E+2	3.379E+2	1.417E+0
8.263E+7	9.893E+1	3.100E+2	1.425E+0
9.060E+7	9.665E+1	2.852E+2	1.437E+0
9.934E+7	9.495E+1	2.623E+2	1.450E+0
1.089E+8	9.301E+1	2.403E+2	1.456E+0
1.194E+8	9.132E+1	2.206E+2	1.466E+0
1.310E+8	8.969E+1	2.027E+2	1.477E+0
1.436E+8	8.812E+1	1.858E+2	1.484E+0
1.574E+8	8.624E+1	1.706E+2	1.494E+0
1.726E+8	8.497E+1	1.566E+2	1.504E+0
1.893E+8	8.364E+1	1.437E+2	1.513E+0
2.075E+8	8.259E+1	1.320E+2	1.524E+0
2.276E+8	8.161E+1	1.214E+2	1.536E+0
2.495E+8	8.071E+1	1.112E+2	1.543E+0
2.736E+8	7.973E+1	1.020E+2	1.553E+0
3.000E+8	7.893E+1	9.369E+1	1.564E+0
3.289E+8	7.827E+1	8.613E+1	1.576E+0
3.607E+8	7.771E+1	7.900E+1	1.585E+0
3.955E+8	7.699E+1	7.254E+1	1.596E+0
4.336E+8	7.655E+1	6.686E+1	1.613E+0
4.755E+8	7.639E+1	6.145E+1	1.626E+0
5.213E+8	7.572E+1	5.681E+1	1.648E+0
5.716E+8	7.528E+1	5.237E+1	1.665E+0
6.268E+8	7.478E+1	4.814E+1	1.679E+0
6.873E+8	7.465E+1	4.444E+1	1.699E+0
7.536E+8	7.450E+1	4.102E+1	1.720E+0
8.263E+8	7.418E+1	3.850E+1	1.770E+0
9.060E+8	7.460E+1	3.543E+1	1.786E+0
9.934E+8	7.375E+1	3.390E+1	1.874E+0
1.089E+9	7.395E+1	3.156E+1	1.912E+0
1.194E+9	7.332E+1	3.031E+1	2.014E+0
1.310E+9	7.210E+1	2.900E+1	2.113E+0
1.436E+9	7.125E+1	2.663E+1	2.127E+0
1.574E+9	7.135E+1	2.530E+1	2.216E+0
1.726E+9	7.165E+1	2.350E+1	2.257E+0
1.893E+9	7.134E+1	2.278E+1	2.399E+0
2.075E+9	7.131E+1	2.249E+1	2.597E+0
2.181E+9	6.738E+1	2.141E+1	2.598E+0
2.294E+9	6.728E+1	2.105E+1	2.686E+0
2.412E+9	6.695E+1	2.065E+1	2.771E+0
2.537E+9	6.684E+1	2.040E+1	2.879E+0
2.668E+9	6.666E+1	2.016E+1	2.993E+0
2.806E+9	6.653E+1	1.999E+1	3.121E+0
2.951E+9	6.629E+1	1.984E+1	3.257E+0
3.103E+9	6.606E+1	1.965E+1	3.392E+0
3.263E+9	6.579E+1	1.949E+1	3.538E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
3.432E+9	6.575E+1	1.950E+1	3.724E+0
3.609E+9	6.530E+1	1.941E+1	3.898E+0
3.796E+9	6.523E+1	1.951E+1	4.119E+0
3.992E+9	6.496E+1	1.961E+1	4.355E+0
4.198E+9	6.475E+1	1.963E+1	4.585E+0
4.415E+9	6.436E+1	1.993E+1	4.895E+0
4.643E+9	6.416E+1	1.991E+1	5.142E+0
4.883E+9	6.377E+1	2.044E+1	5.552E+0
5.135E+9	6.322E+1	2.066E+1	5.900E+0
5.400E+9	6.291E+1	2.090E+1	6.279E+0
5.679E+9	6.248E+1	2.116E+1	6.686E+0
5.972E+9	6.179E+1	2.155E+1	7.158E+0
6.281E+9	6.137E+1	2.186E+1	7.639E+0
6.605E+9	6.076E+1	2.232E+1	8.201E+0
6.946E+9	6.025E+1	2.253E+1	8.708E+0
7.305E+9	5.962E+1	2.285E+1	9.288E+0
7.682E+9	5.910E+1	2.344E+1	1.002E+1
8.079E+9	5.819E+1	2.366E+1	1.064E+1
8.496E+9	5.735E+1	2.420E+1	1.144E+1
8.935E+9	5.652E+1	2.466E+1	1.226E+1
9.397E+9	5.595E+1	2.518E+1	1.316E+1
9.882E+9	5.473E+1	2.541E+1	1.397E+1
1.039E+10	5.397E+1	2.609E+1	1.508E+1
1.093E+10	5.269E+1	2.617E+1	1.591E+1
1.149E+10	5.185E+1	2.681E+1	1.714E+1
1.209E+10	5.082E+1	2.693E+1	1.811E+1
1.271E+10	5.006E+1	2.721E+1	1.924E+1
1.337E+10	4.862E+1	2.700E+1	2.008E+1
1.406E+10	4.735E+1	2.749E+1	2.150E+1
1.478E+10	4.629E+1	2.823E+1	2.322E+1
1.555E+10	4.520E+1	2.777E+1	2.402E+1
1.635E+10	4.429E+1	2.843E+1	2.586E+1
1.720E+10	4.273E+1	2.848E+1	2.725E+1
1.808E+10	4.180E+1	2.853E+1	2.870E+1
1.902E+10	4.037E+1	2.866E+1	3.032E+1
2.000E+10	3.906E+1	2.821E+1	3.139E+1

Grey Matter

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	5.260E+7	6.163E+7	3.429E-2
1.122E+1	4.923E+7	5.826E+7	3.637E-2
1.259E+1	4.558E+7	5.553E+7	3.889E-2
1.350E+1	4.198E+7	5.289E+7	4.156E-2
1.585E+1	3.834E+7	5.028E+7	4.433E-2
1.778E+1	3.474E+7	4.767E+7	4.716E-2
1.995E+1	3.128E+7	4.511E+7	5.007E-2
2.239E+1	2.800E+7	4.265E+7	5.312E-2
2.512E+1	2.491E+7	4.021E+7	5.619E-2
2.818E+1	2.177E+7	3.881E+7	6.085E-2
3.162E+1	1.918E+7	3.634E+7	6.394E-2
3.548E+1	1.675E+7	3.383E+7	6.679E-2
3.981E+1	1.457E+7	3.137E+7	6.947E-2
4.467E+1	1.263E+7	2.903E+7	7.214E-2
5.012E+1	1.089E+7	2.678E+7	7.468E-2
5.623E+1	9.346E+6	2.462E+7	7.703E-2
6.310E+1	7.996E+6	2.256E+7	7.920E-2
7.079E+1	6.841E+6	2.066E+7	8.137E-2
7.943E+1	5.851E+6	1.889E+7	8.349E-2
8.913E+1	4.988E+6	1.722E+7	8.539E-2
1.000E+2	4.239E+6	1.566E+7	8.714E-2
1.122E+2	3.603E+6	1.422E+7	8.876E-2
1.259E+2	3.055E+6	1.289E+7	9.025E-2
1.413E+2	2.587E+6	1.166E+7	9.159E-2
1.585E+2	2.193E+6	1.054E+7	9.291E-2
1.778E+2	1.858E+6	9.509E+6	9.407E-2
1.995E+2	1.572E+6	8.565E+6	9.508E-2
2.239E+2	1.330E+6	7.708E+6	9.601E-2
2.512E+2	1.131E+6	6.941E+6	9.699E-2
2.818E+2	9.610E+5	6.241E+6	9.785E-2
3.162E+2	8.179E+5	5.608E+6	9.866E-2
3.548E+2	6.949E+5	5.033E+6	9.934E-2
3.981E+2	5.950E+5	4.524E+6	1.002E-1
4.467E+2	5.100E+5	4.062E+6	1.009E-1
5.012E+2	4.362E+5	3.642E+6	1.016E-1
5.623E+2	3.750E+5	3.266E+6	1.022E-1
6.310E+2	3.229E+5	2.928E+6	1.028E-1
7.079E+2	2.782E+5	2.623E+6	1.033E-1
7.943E+2	2.404E+5	2.350E+6	1.039E-1
8.913E+2	2.084E+5	2.106E+6	1.044E-1
1.000E+3	1.812E+5	1.887E+6	1.050E-1
1.122E+3	1.581E+5	1.691E+6	1.056E-1
1.259E+3	1.376E+5	1.514E+6	1.061E-1
1.413E+3	1.208E+5	1.357E+6	1.067E-1
1.585E+3	1.066E+5	1.217E+6	1.073E-1
1.778E+3	9.411E+4	1.090E+6	1.078E-1
1.995E+3	8.292E+4	9.750E+5	1.082E-1
2.239E+3	7.309E+4	8.726E+5	1.087E-1
2.512E+3	6.509E+4	7.819E+5	1.093E-1
2.818E+3	5.766E+4	6.996E+5	1.097E-1
3.162E+3	5.141E+4	6.267E+5	1.102E-1
3.548E+3	4.596E+4	5.617E+5	1.109E-1
3.981E+3	4.118E+4	5.036E+5	1.115E-1
4.467E+3	3.709E+4	4.510E+5	1.121E-1
5.012E+3	3.321E+4	4.035E+5	1.125E-1
5.623E+3	2.996E+4	3.613E+5	1.130E-1
6.310E+3	2.698E+4	3.234E+5	1.135E-1
7.079E+3	2.443E+4	2.898E+5	1.141E-1
7.943E+3	2.208E+4	2.593E+5	1.146E-1
8.913E+3	2.006E+4	2.324E+5	1.152E-1

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	1.821E+4	2.080E+5	1.157E-1
1.122E+4	1.658E+4	1.865E+5	1.164E-1
1.259E+4	1.518E+4	1.672E+5	1.171E-1
1.413E+4	1.385E+4	1.498E+5	1.177E-1
1.585E+4	1.269E+4	1.344E+5	1.185E-1
1.778E+4	1.169E+4	1.206E+5	1.193E-1
1.995E+4	1.067E+4	1.082E+5	1.201E-1
2.239E+4	9.918E+3	9.736E+4	1.213E-1
2.512E+4	9.140E+3	8.744E+4	1.222E-1
2.818E+4	8.485E+3	7.897E+4	1.238E-1
3.162E+4	7.875E+3	7.118E+4	1.252E-1
3.548E+4	7.334E+3	6.375E+4	1.258E-1
3.981E+4	6.702E+3	5.684E+4	1.259E-1
4.467E+4	6.186E+3	5.094E+4	1.266E-1
5.012E+4	5.723E+3	4.567E+4	1.273E-1
5.623E+4	5.328E+3	4.105E+4	1.284E-1
6.310E+4	4.934E+3	3.684E+4	1.293E-1
7.079E+4	4.609E+3	3.312E+4	1.304E-1
7.943E+4	4.286E+3	2.975E+4	1.315E-1
8.913E+4	3.988E+3	2.671E+4	1.324E-1
1.000E+5	3.719E+3	2.400E+4	1.335E-1
1.122E+5	3.481E+3	2.159E+4	1.348E-1
1.259E+5	3.247E+3	1.941E+4	1.359E-1
1.413E+5	3.042E+3	1.747E+4	1.373E-1
1.585E+5	2.840E+3	1.575E+4	1.388E-1
1.778E+5	2.668E+3	1.422E+4	1.407E-1
1.995E+5	2.504E+3	1.282E+4	1.423E-1
2.239E+5	2.346E+3	1.155E+4	1.439E-1
2.512E+5	2.193E+3	1.041E+4	1.455E-1
2.818E+5	2.053E+3	9.398E+3	1.474E-1
3.162E+5	1.922E+3	8.494E+3	1.494E-1
3.548E+5	1.807E+3	7.692E+3	1.518E-1
3.981E+5	1.691E+3	6.951E+3	1.539E-1
4.467E+5	1.583E+3	6.283E+3	1.561E-1
5.012E+5	1.481E+3	5.687E+3	1.586E-1
5.623E+5	1.386E+3	5.155E+3	1.613E-1
6.310E+5	1.302E+3	4.688E+3	1.646E-1
7.079E+5	1.214E+3	4.246E+3	1.672E-1
7.943E+5	1.137E+3	3.861E+3	1.706E-1
8.913E+5	1.062E+3	3.510E+3	1.741E-1
1.000E+6	9.914E+2	3.186E+3	1.772E-1
1.122E+6	9.268E+2	2.896E+3	1.808E-1
1.259E+6	8.646E+2	2.627E+3	1.840E-1
1.413E+6	8.077E+2	2.387E+3	1.875E-1
1.585E+6	7.550E+2	2.169E+3	1.912E-1
1.778E+6	7.052E+2	1.978E+3	1.957E-1
1.995E+6	6.611E+2	1.798E+3	1.996E-1
2.239E+6	6.343E+2	1.643E+3	2.046E-1
2.512E+6	5.865E+2	1.508E+3	2.108E-1
2.818E+6	5.442E+2	1.377E+3	2.159E-1
3.162E+6	5.068E+2	1.259E+3	2.215E-1
3.548E+6	4.719E+2	1.152E+3	2.274E-1
3.981E+6	4.409E+2	1.053E+3	2.332E-1
4.467E+6	4.115E+2	9.632E+2	2.394E-1
5.012E+6	3.832E+2	8.819E+2	2.459E-1
5.623E+6	3.573E+2	8.090E+2	2.531E-1
6.310E+6	3.332E+2	7.404E+2	2.599E-1
7.079E+6	3.114E+2	6.780E+2	2.670E-1
7.943E+6	2.893E+2	6.229E+2	2.753E-1
8.913E+6	2.700E+2	5.697E+2	2.825E-1

Grey Matter

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+7	2.650E+2	5.212E+2	2.900E-1
1.089E+7	2.600E+2	4.951E+2	3.000E-1
1.194E+7	2.550E+2	4.816E+2	3.200E-1
1.310E+7	2.500E+2	4.667E+2	3.400E-1
1.436E+7	2.450E+2	4.507E+2	3.600E-1
1.574E+7	2.400E+2	4.338E+2	3.800E-1
1.726E+7	2.376E+2	4.165E+2	4.000E-1
1.893E+7	2.234E+2	3.840E+2	4.044E-1
2.075E+7	2.134E+2	3.631E+2	4.192E-1
2.276E+7	2.012E+2	3.391E+2	4.294E-1
2.495E+7	1.876E+2	3.195E+2	4.436E-1
2.736E+7	1.802E+2	2.993E+2	4.556E-1
3.000E+7	1.707E+2	2.779E+2	4.638E-1
3.289E+7	1.616E+2	2.624E+2	4.802E-1
3.607E+7	1.546E+2	2.445E+2	4.907E-1
3.955E+7	1.464E+2	2.308E+2	5.079E-1
4.336E+7	1.391E+2	2.175E+2	5.246E-1
4.755E+7	1.314E+2	2.029E+2	5.368E-1
5.213E+7	1.237E+2	1.906E+2	5.527E-1
5.716E+7	1.181E+2	1.783E+2	5.670E-1
6.268E+7	1.115E+2	1.671E+2	5.826E-1
6.873E+7	1.058E+2	1.562E+2	5.973E-1
7.536E+7	1.003E+2	1.461E+2	6.124E-1
8.263E+7	9.517E+1	1.363E+2	6.266E-1
9.060E+7	9.073E+1	1.269E+2	6.398E-1
9.934E+7	8.659E+1	1.187E+2	6.558E-1
1.089E+8	8.337E+1	1.109E+2	6.719E-1
1.194E+8	7.985E+1	1.035E+2	6.878E-1
1.310E+8	7.671E+1	9.656E+1	7.034E-1
1.436E+8	7.369E+1	9.026E+1	7.210E-1
1.574E+8	7.098E+1	8.373E+1	7.334E-1
1.726E+8	6.866E+1	7.749E+1	7.442E-1
1.893E+8	6.666E+1	7.206E+1	7.588E-1
2.075E+8	6.452E+1	6.690E+1	7.725E-1
2.276E+8	6.253E+1	6.222E+1	7.877E-1
2.495E+8	6.089E+1	5.764E+1	8.002E-1
2.736E+8	5.952E+1	5.340E+1	8.129E-1
3.000E+8	5.831E+1	4.945E+1	8.254E-1
3.289E+8	5.705E+1	4.584E+1	8.390E-1
3.607E+8	5.598E+1	4.240E+1	8.509E-1
3.955E+8	5.508E+1	3.932E+1	8.650E-1
4.336E+8	5.427E+1	3.637E+1	8.775E-1
4.755E+8	5.389E+1	3.363E+1	8.896E-1
5.213E+8	5.303E+1	3.155E+1	9.152E-1
5.716E+8	5.228E+1	2.926E+1	9.307E-1
6.268E+8	5.165E+1	2.710E+1	9.451E-1
6.873E+8	5.160E+1	2.554E+1	9.767E-1
7.536E+8	5.086E+1	2.309E+1	9.681E-1
8.263E+8	5.047E+1	2.246E+1	1.033E+0
9.060E+8	5.191E+1	1.999E+1	1.007E+0
9.934E+8	4.987E+1	2.035E+1	1.125E+0
1.089E+9	5.085E+1	1.819E+1	1.102E+0
1.194E+9	5.033E+1	1.846E+1	1.227E+0
1.310E+9	4.885E+1	1.819E+1	1.325E+0
1.436E+9	4.817E+1	1.704E+1	1.361E+0
1.574E+9	4.759E+1	1.645E+1	1.441E+0
1.726E+9	4.790E+1	1.543E+1	1.482E+0
1.893E+9	4.766E+1	1.500E+1	1.580E+0
2.075E+9	4.729E+1	1.512E+1	1.745E+0
2.276E+9	4.714E+1	1.540E+1	1.950E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
2.495E+9	4.595E+1	1.597E+1	2.217E+0
2.736E+9	4.473E+1	1.660E+1	2.526E+0
3.000E+9	4.500E+1	1.558E+1	2.600E+0
3.103E+9	4.600E+1	1.564E+1	2.700E+0
3.263E+9	4.700E+1	1.542E+1	2.800E+0
3.432E+9	4.800E+1	1.519E+1	2.900E+0
3.609E+9	4.900E+1	1.494E+1	3.000E+0
3.796E+9	4.990E+1	1.468E+1	3.100E+0
3.992E+9	4.979E+1	1.446E+1	3.210E+0
4.198E+9	4.948E+1	1.468E+1	3.429E+0
4.415E+9	4.921E+1	1.489E+1	3.657E+0
4.643E+9	4.890E+1	1.505E+1	3.888E+0
4.883E+9	4.842E+1	1.530E+1	4.155E+0
5.135E+9	4.807E+1	1.572E+1	4.490E+0
5.400E+9	4.747E+1	1.581E+1	4.749E+0
5.679E+9	4.699E+1	1.604E+1	5.068E+0
5.972E+9	4.631E+1	1.615E+1	5.366E+0
6.281E+9	4.589E+1	1.645E+1	5.748E+0
6.605E+9	4.518E+1	1.635E+1	6.006E+0
6.946E+9	4.454E+1	1.648E+1	6.367E+0
7.305E+9	4.397E+1	1.653E+1	6.717E+0
7.682E+9	4.340E+1	1.648E+1	7.042E+0
8.079E+9	4.286E+1	1.673E+1	7.518E+0
8.496E+9	4.226E+1	1.684E+1	7.958E+0
8.935E+9	4.155E+1	1.697E+1	8.435E+0
9.397E+9	4.085E+1	1.694E+1	8.858E+0
9.882E+9	4.018E+1	1.686E+1	9.267E+0
1.039E+10	3.943E+1	1.663E+1	9.615E+0
1.093E+10	3.906E+1	1.654E+1	1.006E+1
1.149E+10	3.834E+1	1.641E+1	1.050E+1
1.209E+10	3.801E+1	1.619E+1	1.089E+1
1.271E+10	3.752E+1	1.605E+1	1.135E+1
1.337E+10	3.718E+1	1.580E+1	1.175E+1
1.406E+10	3.698E+1	1.591E+1	1.244E+1
1.478E+10	3.656E+1	1.598E+1	1.314E+1
1.555E+10	3.629E+1	1.581E+1	1.367E+1
1.635E+10	3.577E+1	1.597E+1	1.453E+1
1.720E+10	3.563E+1	1.604E+1	1.534E+1
1.808E+10	3.506E+1	1.633E+1	1.643E+1
1.902E+10	3.478E+1	1.648E+1	1.743E+1
2.000E+10	3.437E+1	1.666E+1	1.854E+1

Heart

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	2.322E+7	9.933E+7	5.526E-2
1.122E+1	2.250E+7	9.021E+7	5.631E-2
1.259E+1	2.200E+7	8.127E+7	5.692E-2
1.350E+1	2.133E+7	7.348E+7	5.774E-2
1.585E+1	2.050E+7	6.662E+7	5.874E-2
1.778E+1	1.951E+7	6.052E+7	5.987E-2
1.995E+1	1.847E+7	5.525E+7	6.132E-2
2.239E+1	1.715E+7	5.041E+7	6.278E-2
2.512E+1	1.585E+7	4.620E+7	6.456E-2
2.818E+1	1.448E+7	4.239E+7	6.646E-2
3.162E+1	1.309E+7	3.891E+7	6.845E-2
3.548E+1	1.172E+7	3.569E+7	7.045E-2
3.981E+1	1.038E+7	3.265E+7	7.232E-2
4.467E+1	9.144E+6	2.984E+7	7.415E-2
5.012E+1	8.009E+6	2.726E+7	7.600E-2
5.623E+1	6.992E+6	2.486E+7	7.778E-2
6.310E+1	6.072E+6	2.263E+7	7.942E-2
7.079E+1	5.250E+6	2.056E+7	8.097E-2
7.943E+1	4.536E+6	1.864E+7	8.236E-2
8.913E+1	3.908E+6	1.688E+7	8.368E-2
1.000E+2	3.365E+6	1.527E+7	8.497E-2
1.122E+2	2.904E+6	1.381E+7	8.620E-2
1.259E+2	2.512E+6	1.248E+7	8.738E-2
1.413E+2	2.170E+6	1.126E+7	8.851E-2
1.585E+2	1.871E+6	1.013E+7	8.934E-2
1.778E+2	1.619E+6	9.119E+6	9.021E-2
1.995E+2	1.404E+6	8.207E+6	9.110E-2
2.239E+2	1.223E+6	7.376E+6	9.187E-2
2.512E+2	1.070E+6	6.626E+6	9.259E-2
2.818E+2	9.405E+5	5.953E+6	9.334E-2
3.162E+2	8.312E+5	5.344E+6	9.401E-2
3.548E+2	7.379E+5	4.795E+6	9.466E-2
3.981E+2	6.569E+5	4.307E+6	9.540E-2
4.467E+2	5.917E+5	3.868E+6	9.612E-2
5.012E+2	5.354E+5	3.474E+6	9.687E-2
5.623E+2	4.862E+5	3.118E+6	9.755E-2
6.310E+2	4.444E+5	2.801E+6	9.833E-2
7.079E+2	4.084E+5	2.518E+6	9.919E-2
7.943E+2	3.769E+5	2.264E+6	1.000E-1
8.913E+2	3.494E+5	2.035E+6	1.009E-1
1.000E+3	3.239E+5	1.831E+6	1.018E-1
1.122E+3	3.017E+5	1.649E+6	1.029E-1
1.259E+3	2.817E+5	1.486E+6	1.041E-1
1.413E+3	2.630E+5	1.339E+6	1.053E-1
1.585E+3	2.459E+5	1.209E+6	1.066E-1
1.778E+3	2.303E+5	1.091E+6	1.080E-1
1.995E+3	2.154E+5	9.846E+5	1.093E-1
2.239E+3	2.012E+5	8.907E+5	1.109E-1
2.512E+3	1.879E+5	8.060E+5	1.126E-1
2.818E+3	1.752E+5	7.304E+5	1.145E-1
3.162E+3	1.632E+5	6.624E+5	1.165E-1
3.548E+3	1.518E+5	6.012E+5	1.187E-1
3.981E+3	1.408E+5	5.459E+5	1.209E-1
4.467E+3	1.305E+5	4.962E+5	1.233E-1
5.012E+3	1.207E+5	4.511E+5	1.258E-1
5.623E+3	1.115E+5	4.101E+5	1.283E-1
6.310E+3	1.029E+5	3.728E+5	1.309E-1
7.079E+3	9.490E+4	3.391E+5	1.335E-1
7.943E+3	8.742E+4	3.085E+5	1.363E-1
8.913E+3	8.039E+4	2.806E+5	1.391E-1

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	7.360E+4	2.548E+5	1.418E-1
1.122E+4	6.792E+4	2.324E+5	1.450E-1
1.259E+4	6.240E+4	2.115E+5	1.481E-1
1.413E+4	5.728E+4	1.925E+5	1.513E-1
1.585E+4	5.261E+4	1.753E+5	1.546E-1
1.778E+4	4.825E+4	1.597E+5	1.580E-1
1.995E+4	4.427E+4	1.454E+5	1.614E-1
2.239E+4	4.066E+4	1.324E+5	1.649E-1
2.512E+4	3.731E+4	1.206E+5	1.686E-1
2.818E+4	3.420E+4	1.099E+5	1.724E-1
3.162E+4	3.139E+4	1.002E+5	1.762E-1
3.548E+4	2.876E+4	9.136E+4	1.803E-1
3.981E+4	2.641E+4	8.344E+4	1.848E-1
4.467E+4	2.424E+4	7.614E+4	1.892E-1
5.012E+4	2.222E+4	6.937E+4	1.934E-1
5.623E+4	2.038E+4	6.327E+4	1.979E-1
6.310E+4	1.868E+4	5.766E+4	2.024E-1
7.079E+4	1.711E+4	5.258E+4	2.071E-1
7.943E+4	1.567E+4	4.798E+4	2.120E-1
8.913E+4	1.435E+4	4.379E+4	2.171E-1
1.000E+5	1.312E+4	4.000E+4	2.225E-1
1.122E+5	1.201E+4	3.654E+4	2.281E-1
1.259E+5	1.099E+4	3.336E+4	2.337E-1
1.413E+5	1.004E+4	3.051E+4	2.398E-1
1.585E+5	9.180E+3	2.785E+4	2.456E-1
1.778E+5	8.376E+3	2.541E+4	2.514E-1
1.995E+5	7.640E+3	2.321E+4	2.576E-1
2.239E+5	6.977E+3	2.122E+4	2.642E-1
2.512E+5	6.354E+3	1.932E+4	2.700E-1
2.818E+5	5.791E+3	1.786E+4	2.800E-1
3.162E+5	5.275E+3	1.648E+4	2.900E-1
3.289E+5	5.056E+3	1.639E+4	3.000E-1
3.607E+5	4.906E+3	1.545E+4	3.100E-1
3.955E+5	4.527E+3	1.454E+4	3.200E-1
4.336E+5	4.120E+3	1.371E+4	3.307E-1
4.755E+5	3.701E+3	1.270E+4	3.359E-1
5.213E+5	3.502E+3	1.173E+4	3.402E-1
5.716E+5	3.123E+3	1.084E+4	3.447E-1
6.268E+5	2.976E+3	1.005E+4	3.505E-1
6.873E+5	2.780E+3	9.365E+3	3.580E-1
7.536E+5	2.490E+3	8.647E+3	3.625E-1
8.263E+5	2.328E+3	8.020E+3	3.686E-1
9.060E+5	2.206E+3	7.421E+3	3.740E-1
9.934E+5	2.010E+3	6.905E+3	3.816E-1
1.089E+6	1.875E+3	6.353E+3	3.850E-1
1.194E+6	1.694E+3	5.920E+3	3.933E-1
1.310E+6	1.594E+3	5.469E+3	3.985E-1
1.436E+6	1.488E+3	5.070E+3	4.050E-1
1.574E+6	1.411E+3	4.668E+3	4.088E-1
1.726E+6	1.307E+3	4.305E+3	4.135E-1
1.893E+6	1.198E+3	3.995E+3	4.207E-1
2.075E+6	1.114E+3	3.713E+3	4.287E-1
2.276E+6	9.796E+2	3.420E+3	4.329E-1
2.495E+6	9.925E+2	3.180E+3	4.414E-1
2.736E+6	9.513E+2	2.960E+3	4.505E-1
3.000E+6	8.262E+2	2.744E+3	4.580E-1
3.289E+6	8.062E+2	2.544E+3	4.655E-1
3.607E+6	7.485E+2	2.349E+3	4.714E-1
3.955E+6	7.036E+2	2.173E+3	4.781E-1
4.336E+6	6.310E+2	2.026E+3	4.887E-1

Heart

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
4.755E+6	6.078E+2	1.888E+3	4.994E-1
5.213E+6	5.476E+2	1.734E+3	5.030E-1
5.716E+6	5.151E+2	1.597E+3	5.080E-1
6.268E+6	4.776E+2	1.473E+3	5.135E-1
6.873E+6	4.561E+2	1.357E+3	5.189E-1
7.536E+6	4.511E+2	1.256E+3	5.266E-1
8.263E+6	4.450E+2	1.186E+3	5.451E-1
9.060E+6	4.040E+2	1.134E+3	5.718E-1
9.934E+6	3.353E+2	1.062E+3	5.872E-1
1.089E+7	3.133E+2	9.594E+2	5.814E-1
1.194E+7	2.940E+2	8.731E+2	5.801E-1
1.310E+7	2.728E+2	8.135E+2	5.926E-1
1.436E+7	2.742E+2	7.504E+2	5.994E-1
1.574E+7	2.539E+2	7.008E+2	6.139E-1
1.726E+7	2.352E+2	6.463E+2	6.207E-1
1.893E+7	2.147E+2	6.027E+2	6.347E-1
2.075E+7	2.039E+2	5.586E+2	6.450E-1
2.276E+7	1.912E+2	5.201E+2	6.584E-1
2.495E+7	1.778E+2	4.790E+2	6.649E-1
2.736E+7	1.674E+2	4.441E+2	6.760E-1
3.000E+7	1.592E+2	4.122E+2	6.880E-1
3.289E+7	1.472E+2	3.789E+2	6.933E-1
3.607E+7	1.416E+2	3.503E+2	7.028E-1
3.955E+7	1.353E+2	3.273E+2	7.201E-1
4.336E+7	1.257E+2	3.027E+2	7.302E-1
4.755E+7	1.188E+2	2.805E+2	7.419E-1
5.213E+7	1.123E+2	2.586E+2	7.500E-1
5.716E+7	1.058E+2	2.399E+2	7.629E-1
6.268E+7	9.969E+1	2.210E+2	7.706E-1
6.873E+7	9.500E+1	2.042E+2	7.807E-1
7.536E+7	9.035E+1	1.878E+2	7.873E-1
8.263E+7	8.609E+1	1.732E+2	7.961E-1
9.060E+7	8.310E+1	1.589E+2	8.011E-1
9.934E+7	8.043E+1	1.464E+2	8.090E-1
1.089E+8	7.823E+1	1.348E+2	8.167E-1
1.194E+8	7.631E+1	1.248E+2	8.294E-1
1.310E+8	7.481E+1	1.153E+2	8.403E-1
1.436E+8	7.267E+1	1.067E+2	8.525E-1
1.574E+8	7.061E+1	9.788E+1	8.573E-1
1.726E+8	6.951E+1	8.957E+1	8.602E-1
1.893E+8	6.826E+1	8.239E+1	8.676E-1
2.075E+8	6.694E+1	7.600E+1	8.776E-1
2.276E+8	6.567E+1	7.030E+1	8.901E-1
2.495E+8	6.472E+1	6.483E+1	9.000E-1
2.736E+8	6.403E+1	5.958E+1	9.069E-1
3.000E+8	6.346E+1	5.512E+1	9.200E-1
3.289E+8	6.252E+1	5.137E+1	9.400E-1
3.607E+8	6.188E+1	4.784E+1	9.600E-1
3.955E+8	6.146E+1	4.454E+1	9.800E-1
4.140E+8	6.075E+1	4.274E+1	9.843E-1
4.354E+8	6.074E+1	4.073E+1	9.866E-1
4.578E+8	6.023E+1	3.905E+1	9.947E-1
4.815E+8	6.028E+1	3.750E+1	1.004E+0
5.064E+8	5.952E+1	3.606E+1	1.016E+0
5.325E+8	5.981E+1	3.443E+1	1.020E+0
5.600E+8	5.991E+1	3.321E+1	1.035E+0
5.889E+8	5.936E+1	3.170E+1	1.039E+0
6.194E+8	5.897E+1	3.020E+1	1.041E+0
6.513E+8	5.906E+1	2.937E+1	1.064E+0
6.850E+8	5.876E+1	2.836E+1	1.081E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
7.204E+8	5.879E+1	2.721E+1	1.091E+0
7.576E+8	5.858E+1	2.621E+1	1.104E+0
7.967E+8	5.857E+1	2.556E+1	1.133E+0
8.378E+8	5.821E+1	2.446E+1	1.140E+0
8.811E+8	5.802E+1	2.361E+1	1.157E+0
9.266E+8	5.787E+1	2.287E+1	1.179E+0
9.745E+8	5.770E+1	2.197E+1	1.191E+0
1.025E+9	5.748E+1	2.149E+1	1.225E+0
1.078E+9	5.738E+1	2.067E+1	1.239E+0
1.133E+9	5.735E+1	2.017E+1	1.272E+0
1.192E+9	5.723E+1	1.938E+1	1.285E+0
1.254E+9	5.717E+1	1.908E+1	1.331E+0
1.318E+9	5.688E+1	1.876E+1	1.376E+0
1.386E+9	5.674E+1	1.828E+1	1.410E+0
1.458E+9	5.658E+1	1.789E+1	1.451E+0
1.533E+9	5.634E+1	1.752E+1	1.494E+0
1.612E+9	5.628E+1	1.720E+1	1.543E+0
1.696E+9	5.611E+1	1.695E+1	1.599E+0
1.783E+9	5.589E+1	1.665E+1	1.652E+0
1.875E+9	5.577E+1	1.636E+1	1.706E+0
1.972E+9	5.566E+1	1.613E+1	1.770E+0
2.074E+9	5.551E+1	1.609E+1	1.856E+0
2.181E+9	5.530E+1	1.597E+1	1.938E+0
2.294E+9	5.520E+1	1.584E+1	2.022E+0
2.412E+9	5.494E+1	1.589E+1	2.133E+0
2.537E+9	5.466E+1	1.586E+1	2.238E+0
2.668E+9	5.441E+1	1.577E+1	2.341E+0
2.806E+9	5.428E+1	1.573E+1	2.455E+0
2.951E+9	5.397E+1	1.567E+1	2.573E+0
3.103E+9	5.388E+1	1.584E+1	2.735E+0
3.263E+9	5.369E+1	1.613E+1	2.929E+0
3.432E+9	5.332E+1	1.619E+1	3.091E+0
3.609E+9	5.302E+1	1.610E+1	3.233E+0
3.796E+9	5.301E+1	1.643E+1	3.469E+0
3.992E+9	5.276E+1	1.675E+1	3.720E+0
4.198E+9	5.238E+1	1.701E+1	3.972E+0
4.415E+9	5.208E+1	1.737E+1	4.267E+0
4.643E+9	5.161E+1	1.766E+1	4.561E+0
4.883E+9	5.130E+1	1.807E+1	4.907E+0
5.135E+9	5.069E+1	1.848E+1	5.278E+0
5.400E+9	5.007E+1	1.883E+1	5.658E+0
5.679E+9	4.955E+1	1.924E+1	6.078E+0
5.972E+9	4.903E+1	1.966E+1	6.531E+0
6.281E+9	4.827E+1	1.997E+1	6.978E+0
6.605E+9	4.777E+1	2.035E+1	7.477E+0
6.946E+9	4.701E+1	2.061E+1	7.965E+0
7.305E+9	4.636E+1	2.118E+1	8.608E+0
7.682E+9	4.561E+1	2.149E+1	9.183E+0
8.079E+9	4.481E+1	2.202E+1	9.895E+0
8.496E+9	4.391E+1	2.240E+1	1.059E+1
8.935E+9	4.302E+1	2.272E+1	1.129E+1
9.397E+9	4.201E+1	2.300E+1	1.202E+1
9.882E+9	4.097E+1	2.328E+1	1.280E+1
1.039E+10	3.996E+1	2.345E+1	1.356E+1
1.093E+10	3.883E+1	2.368E+1	1.440E+1
1.149E+10	3.780E+1	2.363E+1	1.511E+1
1.209E+10	3.693E+1	2.368E+1	1.592E+1
1.271E+10	3.597E+1	2.369E+1	1.675E+1
1.337E+10	3.464E+1	2.377E+1	1.768E+1
1.406E+10	3.387E+1	2.355E+1	1.842E+1

Heart

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.478E+10	3.295E+1	2.330E+1	1.917E+1
1.555E+10	3.207E+1	2.332E+1	2.017E+1
1.635E+10	3.119E+1	2.309E+1	2.101E+1
1.720E+10	3.027E+1	2.303E+1	2.203E+1
1.808E+10	2.937E+1	2.305E+1	2.319E+1
1.902E+10	2.870E+1	2.284E+1	2.417E+1
2.000E+10	2.796E+1	2.258E+1	2.512E+1

Kidney

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	2.777E+7	1.165E+8	6.481E-2
1.122E+1	2.736E+7	1.051E+8	6.559E-2
1.259E+1	2.667E+7	9.475E+7	6.636E-2
1.350E+1	2.604E+7	8.560E+7	6.726E-2
1.585E+1	2.527E+7	7.758E+7	6.840E-2
1.778E+1	2.432E+7	7.058E+7	6.982E-2
1.995E+1	2.316E+7	6.441E+7	7.149E-2
2.239E+1	2.184E+7	5.896E+7	7.344E-2
2.512E+1	2.036E+7	5.411E+7	7.562E-2
2.818E+1	1.877E+7	4.979E+7	7.807E-2
3.162E+1	1.707E+7	4.580E+7	8.058E-2
3.548E+1	1.535E+7	4.212E+7	8.314E-2
3.981E+1	1.366E+7	3.872E+7	8.574E-2
4.467E+1	1.205E+7	3.553E+7	8.829E-2
5.012E+1	1.054E+7	3.257E+7	9.080E-2
5.623E+1	9.177E+6	2.981E+7	9.325E-2
6.310E+1	7.944E+6	2.723E+7	9.558E-2
7.079E+1	6.830E+6	2.481E+7	9.772E-2
7.943E+1	5.844E+6	2.256E+7	9.968E-2
8.913E+1	4.982E+6	2.048E+7	1.015E-1
1.000E+2	4.230E+6	1.854E+7	1.031E-1
1.122E+2	3.585E+6	1.677E+7	1.047E-1
1.259E+2	3.036E+6	1.515E+7	1.061E-1
1.413E+2	2.572E+6	1.368E+7	1.075E-1
1.585E+2	2.171E+6	1.231E+7	1.085E-1
1.778E+2	1.835E+6	1.107E+7	1.096E-1
1.995E+2	1.551E+6	9.931E+6	1.102E-1
2.239E+2	1.312E+6	8.916E+6	1.110E-1
2.512E+2	1.113E+6	7.999E+6	1.118E-1
2.818E+2	9.453E+5	7.173E+6	1.125E-1
3.162E+2	8.078E+5	6.429E+6	1.131E-1
3.548E+2	6.914E+5	5.763E+6	1.138E-1
3.981E+2	5.921E+5	5.163E+6	1.143E-1
4.467E+2	5.134E+5	4.626E+6	1.149E-1
5.012E+2	4.458E+5	4.143E+6	1.155E-1
5.623E+2	3.889E+5	3.710E+6	1.161E-1
6.310E+2	3.406E+5	3.323E+6	1.167E-1
7.079E+2	3.004E+5	2.977E+6	1.173E-1
7.943E+2	2.664E+5	2.666E+6	1.178E-1
8.913E+2	2.379E+5	2.388E+6	1.184E-1
1.000E+3	2.109E+5	2.138E+6	1.189E-1
1.122E+3	1.905E+5	1.916E+6	1.196E-1
1.259E+3	1.725E+5	1.715E+6	1.201E-1
1.413E+3	1.559E+5	1.537E+6	1.208E-1
1.585E+3	1.414E+5	1.378E+6	1.215E-1
1.778E+3	1.296E+5	1.235E+6	1.222E-1
1.995E+3	1.188E+5	1.106E+6	1.227E-1
2.239E+3	1.088E+5	9.912E+5	1.234E-1
2.512E+3	1.004E+5	8.890E+5	1.242E-1
2.818E+3	9.262E+4	7.975E+5	1.250E-1
3.162E+3	8.575E+4	7.156E+5	1.259E-1
3.548E+3	7.945E+4	6.421E+5	1.267E-1
3.981E+3	7.382E+4	5.765E+5	1.277E-1
4.467E+3	6.852E+4	5.181E+5	1.287E-1
5.012E+3	6.375E+4	4.657E+5	1.299E-1
5.623E+3	5.937E+4	4.186E+5	1.310E-1
6.310E+3	5.517E+4	3.762E+5	1.321E-1
7.079E+3	5.147E+4	3.385E+5	1.333E-1
7.943E+3	4.794E+4	3.048E+5	1.347E-1
8.913E+3	4.465E+4	2.744E+5	1.361E-1

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	4.152E+4	2.473E+5	1.376E-1
1.122E+4	3.870E+4	2.230E+5	1.392E-1
1.259E+4	3.601E+4	2.010E+5	1.408E-1
1.413E+4	3.347E+4	1.813E+5	1.425E-1
1.585E+4	3.111E+4	1.637E+5	1.443E-1
1.778E+4	2.890E+4	1.478E+5	1.463E-1
1.995E+4	2.682E+4	1.336E+5	1.483E-1
2.239E+4	2.490E+4	1.206E+5	1.502E-1
2.512E+4	2.310E+4	1.091E+5	1.524E-1
2.818E+4	2.138E+4	9.865E+4	1.547E-1
3.162E+4	1.981E+4	8.921E+4	1.570E-1
3.548E+4	1.832E+4	8.083E+4	1.596E-1
3.981E+4	1.696E+4	7.340E+4	1.626E-1
4.467E+4	1.574E+4	6.646E+4	1.652E-1
5.012E+4	1.454E+4	6.009E+4	1.675E-1
5.623E+4	1.344E+4	5.441E+4	1.702E-1
6.310E+4	1.243E+4	4.926E+4	1.729E-1
7.079E+4	1.149E+4	4.462E+4	1.757E-1
7.943E+4	1.062E+4	4.042E+4	1.786E-1
8.913E+4	9.819E+3	3.667E+4	1.818E-1
1.000E+5	9.071E+3	3.328E+4	1.851E-1
1.122E+5	8.390E+3	3.021E+4	1.886E-1
1.259E+5	7.768E+3	2.744E+4	1.922E-1
1.413E+5	7.186E+3	2.498E+4	1.963E-1
1.585E+5	6.657E+3	2.270E+4	2.001E-1
1.778E+5	6.159E+3	2.060E+4	2.038E-1
1.995E+5	5.701E+3	1.873E+4	2.079E-1
2.239E+5	5.289E+3	1.706E+4	2.125E-1
2.512E+5	4.897E+3	1.550E+4	2.166E-1
2.818E+5	4.535E+3	1.411E+4	2.212E-1
3.162E+5	4.208E+3	1.285E+4	2.261E-1
3.548E+5	3.902E+3	1.171E+4	2.312E-1
3.981E+5	3.618E+3	1.067E+4	2.364E-1
4.467E+5	3.355E+3	9.726E+3	2.417E-1
5.012E+5	3.108E+3	8.862E+3	2.471E-1
5.623E+5	2.885E+3	8.083E+3	2.529E-1
6.310E+5	2.672E+3	7.374E+3	2.588E-1
7.079E+5	2.478E+3	6.740E+3	2.655E-1
7.943E+5	2.296E+3	6.161E+3	2.723E-1
8.913E+5	2.126E+3	5.629E+3	2.791E-1
1.000E+6	1.969E+3	5.148E+3	2.864E-1
1.122E+6	1.822E+3	4.712E+3	2.941E-1
1.259E+6	1.687E+3	4.317E+3	3.023E-1
1.413E+6	1.565E+3	3.971E+3	3.121E-1
1.585E+6	1.452E+3	3.656E+3	3.224E-1
1.778E+6	1.340E+3	3.343E+3	3.308E-1
1.995E+6	1.237E+3	3.060E+3	3.396E-1
2.239E+6	1.144E+3	2.795E+3	3.481E-1
2.512E+6	1.055E+3	2.570E+3	3.591E-1
2.818E+6	9.653E+2	2.360E+3	3.700E-1
3.162E+6	8.857E+2	2.217E+3	3.900E-1
3.548E+6	8.122E+2	2.077E+3	4.100E-1
3.981E+6	7.451E+2	1.942E+3	4.300E-1
4.336E+6	7.703E+2	1.865E+3	4.500E-1
4.755E+6	7.439E+2	1.770E+3	4.683E-1
5.213E+6	6.820E+2	1.637E+3	4.749E-1
5.716E+6	6.464E+2	1.515E+3	4.819E-1
6.268E+6	6.057E+2	1.406E+3	4.904E-1
6.873E+6	5.801E+2	1.302E+3	4.979E-1
7.536E+6	5.709E+2	1.212E+3	5.079E-1

Kidney

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
8.263E+6	5.635E+2	1.150E+3	5.286E-1
9.060E+6	5.223E+2	1.110E+3	5.592E-1
9.934E+6	4.498E+2	1.053E+3	5.819E-1
1.089E+7	4.200E+2	9.565E+2	5.796E-1
1.194E+7	3.928E+2	8.767E+2	5.825E-1
1.310E+7	3.664E+2	8.241E+2	6.004E-1
1.436E+7	3.637E+2	7.645E+2	6.107E-1
1.574E+7	3.387E+2	7.196E+2	6.303E-1
1.726E+7	3.145E+2	6.696E+2	6.431E-1
1.893E+7	2.884E+2	6.303E+2	6.637E-1
2.075E+7	2.727E+2	5.889E+2	6.800E-1
2.276E+7	2.551E+2	5.529E+2	7.000E-1
2.495E+7	2.363E+2	5.134E+2	7.127E-1
2.736E+7	2.210E+2	4.802E+2	7.310E-1
3.000E+7	2.082E+2	4.488E+2	7.490E-1
3.289E+7	1.918E+2	4.161E+2	7.614E-1
3.607E+7	1.821E+2	3.872E+2	7.768E-1
3.955E+7	1.722E+2	3.642E+2	8.014E-1
4.336E+7	1.584E+2	3.391E+2	8.181E-1
4.755E+7	1.482E+2	3.165E+2	8.371E-1
5.213E+7	1.378E+2	2.938E+2	8.521E-1
5.716E+7	1.283E+2	2.744E+2	8.726E-1
6.268E+7	1.190E+2	2.540E+2	8.857E-1
6.873E+7	1.117E+2	2.360E+2	9.024E-1
7.536E+7	1.046E+2	2.181E+2	9.141E-1
8.263E+7	9.797E+1	2.021E+2	9.291E-1
9.060E+7	9.285E+1	1.863E+2	9.389E-1
9.934E+7	8.838E+1	1.721E+2	9.512E-1
1.089E+8	8.468E+1	1.590E+2	9.633E-1
1.194E+8	8.148E+1	1.476E+2	9.806E-1
1.310E+8	7.885E+1	1.368E+2	9.969E-1
1.436E+8	7.551E+1	1.268E+2	1.013E+0
1.574E+8	7.234E+1	1.165E+2	1.021E+0
1.726E+8	7.040E+1	1.068E+2	1.026E+0
1.893E+8	6.847E+1	9.845E+1	1.037E+0
2.075E+8	6.643E+1	9.094E+1	1.050E+0
2.276E+8	6.449E+1	8.411E+1	1.065E+0
2.495E+8	6.305E+1	7.765E+1	1.078E+0
2.736E+8	6.184E+1	7.137E+1	1.086E+0
3.000E+8	6.095E+1	6.576E+1	1.097E+0
3.289E+8	5.960E+1	6.077E+1	1.112E+0
3.607E+8	5.868E+1	5.599E+1	1.124E+0
3.955E+8	5.803E+1	5.180E+1	1.140E+0
4.336E+8	5.730E+1	4.774E+1	1.152E+0
4.755E+8	5.665E+1	4.427E+1	1.171E+0
5.213E+8	5.608E+1	4.096E+1	1.188E+0
5.716E+8	5.551E+1	3.802E+1	1.209E+0
6.268E+8	5.512E+1	3.527E+1	1.230E+0
6.873E+8	5.472E+1	3.290E+1	1.258E+0
7.536E+8	5.439E+1	3.067E+1	1.286E+0
8.263E+8	5.384E+1	2.892E+1	1.329E+0
9.060E+8	5.390E+1	2.680E+1	1.351E+0
9.934E+8	5.314E+1	2.497E+1	1.380E+0
1.089E+9	5.400E+1	2.294E+1	1.390E+0
1.078E+9	5.535E+1	2.335E+1	1.400E+0
1.133E+9	5.514E+1	2.224E+1	1.402E+0
1.192E+9	5.507E+1	2.136E+1	1.416E+0
1.254E+9	5.489E+1	2.097E+1	1.463E+0
1.318E+9	5.462E+1	2.058E+1	1.509E+0
1.386E+9	5.440E+1	1.999E+1	1.542E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.458E+9	5.421E+1	1.947E+1	1.579E+0
1.533E+9	5.397E+1	1.908E+1	1.628E+0
1.612E+9	5.386E+1	1.862E+1	1.670E+0
1.696E+9	5.363E+1	1.831E+1	1.727E+0
1.783E+9	5.341E+1	1.789E+1	1.775E+0
1.875E+9	5.322E+1	1.753E+1	1.829E+0
1.972E+9	5.313E+1	1.722E+1	1.890E+0
2.074E+9	5.294E+1	1.711E+1	1.974E+0
2.181E+9	5.271E+1	1.693E+1	2.054E+0
2.294E+9	5.255E+1	1.666E+1	2.126E+0
2.412E+9	5.231E+1	1.667E+1	2.237E+0
2.537E+9	5.197E+1	1.655E+1	2.336E+0
2.668E+9	5.171E+1	1.638E+1	2.431E+0
2.806E+9	5.149E+1	1.627E+1	2.539E+0
2.951E+9	5.126E+1	1.614E+1	2.649E+0
3.103E+9	5.116E+1	1.618E+1	2.793E+0
3.263E+9	5.096E+1	1.641E+1	2.979E+0
3.432E+9	5.060E+1	1.635E+1	3.123E+0
3.609E+9	5.028E+1	1.626E+1	3.265E+0
3.796E+9	5.017E+1	1.644E+1	3.472E+0
3.992E+9	4.996E+1	1.670E+1	3.708E+0
4.198E+9	4.962E+1	1.693E+1	3.954E+0
4.415E+9	4.929E+1	1.712E+1	4.205E+0
4.643E+9	4.881E+1	1.737E+1	4.487E+0
4.883E+9	4.857E+1	1.767E+1	4.799E+0
5.135E+9	4.798E+1	1.798E+1	5.137E+0
5.400E+9	4.735E+1	1.828E+1	5.492E+0
5.679E+9	4.687E+1	1.858E+1	5.869E+0
5.972E+9	4.632E+1	1.885E+1	6.263E+0
6.281E+9	4.563E+1	1.916E+1	6.693E+0
6.605E+9	4.511E+1	1.937E+1	7.119E+0
6.946E+9	4.446E+1	1.962E+1	7.581E+0
7.305E+9	4.378E+1	2.004E+1	8.145E+0
7.682E+9	4.305E+1	2.030E+1	8.678E+0
8.079E+9	4.231E+1	2.071E+1	9.308E+0
8.496E+9	4.144E+1	2.099E+1	9.923E+0
8.935E+9	4.064E+1	2.125E+1	1.056E+1
9.397E+9	3.965E+1	2.142E+1	1.120E+1
9.882E+9	3.869E+1	2.158E+1	1.187E+1
1.039E+10	3.775E+1	2.170E+1	1.255E+1
1.093E+10	3.675E+1	2.176E+1	1.323E+1
1.149E+10	3.577E+1	2.160E+1	1.381E+1
1.209E+10	3.498E+1	2.153E+1	1.448E+1
1.271E+10	3.411E+1	2.149E+1	1.520E+1
1.337E+10	3.300E+1	2.139E+1	1.590E+1
1.406E+10	3.230E+1	2.112E+1	1.652E+1
1.478E+10	3.146E+1	2.083E+1	1.713E+1
1.555E+10	3.076E+1	2.071E+1	1.791E+1
1.635E+10	3.003E+1	2.048E+1	1.863E+1
1.720E+10	2.931E+1	2.026E+1	1.939E+1
1.808E+10	2.860E+1	2.029E+1	2.042E+1
1.902E+10	2.814E+1	2.007E+1	2.124E+1
2.000E+10	2.750E+1	1.979E+1	2.202E+1

Lens Cortex

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.090E+6	1.913E+3	5.340E+3	3.200E-1
1.310E+6	1.600E+3	4.668E+3	3.400E-1
1.570E+6	1.347E+3	4.076E+3	3.600E-1
1.890E+6	1.146E+3	3.525E+3	3.700E-1
2.280E+6	9.670E+2	3.036E+3	3.900E-1
2.740E+6	7.975E+2	2.610E+3	4.000E-1
3.290E+6	6.615E+2	2.234E+3	4.100E-1
3.950E+6	5.559E+2	1.912E+3	4.200E-1
4.750E+6	4.651E+2	1.640E+3	4.300E-1
5.720E+6	3.848E+2	1.405E+3	4.500E-1
6.870E+6	3.185E+2	1.204E+3	4.600E-1
8.260E+6	2.656E+2	1.028E+3	4.700E-1
9.930E+6	2.235E+2	8.767E+2	4.800E-1
1.190E+7	1.896E+2	7.473E+2	4.900E-1
1.440E+7	1.617E+2	6.356E+2	5.100E-1
1.730E+7	1.386E+2	5.387E+2	5.200E-1
2.080E+7	1.199E+2	4.562E+2	5.300E-1
2.500E+7	1.053E+2	3.855E+2	5.400E-1
3.000E+7	9.393E+1	3.255E+2	5.400E-1
3.610E+7	8.517E+1	2.746E+2	5.500E-1
4.340E+7	7.831E+1	2.314E+2	5.600E-1
5.210E+7	7.290E+1	1.949E+2	5.700E-1
6.270E+7	6.863E+1	1.642E+2	5.700E-1
7.540E+7	6.529E+1	1.382E+2	5.800E-1
9.060E+7	6.262E+1	1.164E+2	5.900E-1
1.090E+8	6.040E+1	9.814E+1	6.000E-1
1.310E+8	5.861E+1	8.285E+1	6.000E-1
1.570E+8	5.723E+1	7.003E+1	6.100E-1
1.890E+8	5.600E+1	5.928E+1	6.200E-1
2.280E+8	5.490E+1	5.036E+1	6.400E-1
2.740E+8	5.399E+1	4.290E+1	6.500E-1
3.290E+8	5.315E+1	3.670E+1	6.700E-1
3.950E+8	5.240E+1	3.159E+1	6.900E-1
4.750E+8	5.173E+1	2.737E+1	7.200E-1
4.810E+8	5.322E+1	2.810E+1	7.500E-1
5.330E+8	5.297E+1	2.595E+1	7.700E-1
5.890E+8	5.278E+1	2.405E+1	7.900E-1
6.510E+8	5.256E+1	2.237E+1	8.100E-1
7.200E+8	5.223E+1	2.093E+1	8.400E-1
7.970E+8	5.183E+1	1.959E+1	8.700E-1
8.810E+8	5.155E+1	1.835E+1	9.000E-1
9.740E+8	5.120E+1	1.734E+1	9.400E-1
1.080E+9	5.089E+1	1.637E+1	9.800E-1
1.190E+9	5.066E+1	1.554E+1	1.030E+0
1.320E+9	5.036E+1	1.487E+1	1.090E+0
1.460E+9	5.005E+1	1.428E+1	1.160E+0
1.610E+9	4.979E+1	1.381E+1	1.240E+0
1.780E+9	4.950E+1	1.342E+1	1.330E+0
1.970E+9	4.920E+1	1.311E+1	1.440E+0
2.180E+9	4.888E+1	1.298E+1	1.580E+0
2.410E+9	4.855E+1	1.290E+1	1.730E+0
2.670E+9	4.822E+1	1.285E+1	1.910E+0
2.950E+9	4.789E+1	1.296E+1	2.130E+0
3.260E+9	4.747E+1	1.322E+1	2.400E+0
3.610E+9	4.700E+1	1.351E+1	2.710E+0
3.990E+9	4.653E+1	1.382E+1	3.070E+0
4.410E+9	4.606E+1	1.423E+1	3.490E+0
4.880E+9	4.553E+1	1.481E+1	4.020E+0
5.400E+9	4.482E+1	1.561E+1	4.690E+0
5.970E+9	4.391E+1	1.645E+1	5.460E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
6.600E+9	4.285E+1	1.719E+1	6.320E+0
7.300E+9	4.173E+1	1.792E+1	7.280E+0
8.080E+9	4.053E+1	1.869E+1	8.400E+0
8.940E+9	3.909E+1	1.944E+1	9.660E+0
9.880E+9	3.745E+1	1.999E+1	1.099E+1
1.090E+10	3.585E+1	2.047E+1	1.245E+1
1.210E+10	3.418E+1	2.084E+1	1.402E+1
1.340E+10	3.251E+1	2.113E+1	1.572E+1
1.480E+10	3.082E+1	2.136E+1	1.756E+1
1.640E+10	2.904E+1	2.166E+1	1.971E+1
1.810E+10	2.722E+1	2.209E+1	2.222E+1
2.000E+10	2.542E+1	2.241E+1	2.493E+1

Lens Nucleus

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.090E+6	6.095E+2	3.105E+3	1.900E-1
1.310E+6	4.922E+2	2.643E+3	1.900E-1
1.570E+6	4.098E+2	2.245E+3	2.000E-1
1.890E+6	3.501E+2	1.895E+3	2.000E-1
2.280E+6	2.951E+2	1.599E+3	2.000E-1
2.740E+6	2.497E+2	1.349E+3	2.100E-1
3.290E+6	2.137E+2	1.134E+3	2.100E-1
3.950E+6	1.861E+2	9.537E+2	2.100E-1
4.750E+6	1.629E+2	8.035E+2	2.100E-1
5.720E+6	1.427E+2	6.775E+2	2.200E-1
6.870E+6	1.270E+2	5.734E+2	2.200E-1
8.260E+6	1.136E+2	4.856E+2	2.200E-1
9.930E+6	1.018E+2	4.114E+2	2.300E-1
1.190E+7	9.199E+1	3.486E+2	2.300E-1
1.440E+7	8.386E+1	2.951E+2	2.400E-1
1.730E+7	7.659E+1	2.495E+2	2.400E-1
2.080E+7	7.027E+1	2.110E+2	2.400E-1
2.500E+7	6.514E+1	1.784E+2	2.500E-1
3.000E+7	6.105E+1	1.509E+2	2.500E-1
3.610E+7	5.773E+1	1.277E+2	2.600E-1
4.340E+7	5.497E+1	1.082E+2	2.600E-1
5.210E+7	5.263E+1	9.175E+1	2.700E-1
6.270E+7	5.063E+1	7.792E+1	2.700E-1
7.540E+7	4.891E+1	6.626E+1	2.800E-1
9.060E+7	4.740E+1	5.646E+1	2.800E-1
1.090E+8	4.605E+1	4.819E+1	2.900E-1
1.300E+8	4.421E+1	4.016E+1	2.900E-1
1.440E+8	4.366E+1	3.625E+1	2.900E-1
1.590E+8	4.325E+1	3.311E+1	2.900E-1
1.760E+8	4.269E+1	3.036E+1	3.000E-1
1.940E+8	4.206E+1	2.805E+1	3.000E-1
2.150E+8	4.186E+1	2.600E+1	3.100E-1
2.380E+8	4.149E+1	2.404E+1	3.200E-1
2.630E+8	4.082E+1	2.215E+1	3.200E-1
2.910E+8	4.029E+1	2.056E+1	3.300E-1
3.220E+8	3.988E+1	1.909E+1	3.400E-1
3.560E+8	3.950E+1	1.774E+1	3.500E-1
3.940E+8	3.915E+1	1.651E+1	3.600E-1
4.350E+8	3.876E+1	1.551E+1	3.800E-1
4.810E+8	3.839E+1	1.445E+1	3.900E-1
5.330E+8	3.810E+1	1.359E+1	4.000E-1
5.890E+8	3.784E+1	1.291E+1	4.200E-1
6.510E+8	3.757E+1	1.216E+1	4.400E-1
7.200E+8	3.727E+1	1.155E+1	4.600E-1
7.970E+8	3.693E+1	1.097E+1	4.900E-1
8.810E+8	3.659E+1	1.050E+1	5.100E-1
9.740E+8	3.626E+1	1.006E+1	5.500E-1
1.080E+9	3.600E+1	9.640E+0	5.800E-1
1.190E+9	3.578E+1	9.350E+0	6.200E-1
1.320E+9	3.556E+1	9.120E+0	6.700E-1
1.460E+9	3.527E+1	8.960E+0	7.300E-1
1.610E+9	3.497E+1	8.850E+0	7.900E-1
1.780E+9	3.468E+1	8.770E+0	8.700E-1
1.970E+9	3.439E+1	8.700E+0	9.500E-1
2.180E+9	3.408E+1	8.710E+0	1.060E+0
2.410E+9	3.374E+1	8.780E+0	1.180E+0
2.670E+9	3.340E+1	8.860E+0	1.320E+0
2.950E+9	3.305E+1	9.010E+0	1.480E+0
3.260E+9	3.267E+1	9.200E+0	1.670E+0
3.610E+9	3.229E+1	9.460E+0	1.900E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
3.990E+9	3.190E+1	9.830E+0	2.180E+0
4.410E+9	3.144E+1	1.024E+1	2.510E+0
4.880E+9	3.083E+1	1.068E+1	2.900E+0
5.400E+9	3.010E+1	1.116E+1	3.350E+0
5.970E+9	2.930E+1	1.161E+1	3.860E+0
6.600E+9	2.843E+1	1.199E+1	4.410E+0
7.300E+9	2.750E+1	1.232E+1	5.010E+0
8.080E+9	2.650E+1	1.262E+1	5.670E+0
8.940E+9	2.542E+1	1.287E+1	6.400E+0
9.880E+9	2.432E+1	1.300E+1	7.150E+0
1.090E+10	2.321E+1	1.305E+1	7.930E+0
1.210E+10	2.212E+1	1.301E+1	8.750E+0
1.340E+10	2.104E+1	1.290E+1	9.590E+0
1.480E+10	1.998E+1	1.275E+1	1.049E+1
1.640E+10	1.897E+1	1.260E+1	1.146E+1
1.810E+10	1.805E+1	1.246E+1	1.254E+1
2.000E+10	1.717E+1	1.232E+1	1.371E+1

Liver

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	1.808E+7	4.340E+7	2.415E-2
1.122E+1	1.655E+7	3.947E+7	2.464E-2
1.259E+1	1.413E+7	3.690E+7	2.584E-2
1.350E+1	1.230E+7	3.391E+7	2.664E-2
1.585E+1	1.067E+7	3.105E+7	2.738E-2
1.778E+1	9.029E+6	2.846E+7	2.816E-2
1.995E+1	7.843E+6	2.592E+7	2.877E-2
2.239E+1	6.678E+6	2.362E+7	2.942E-2
2.512E+1	5.677E+6	2.145E+7	2.998E-2
2.818E+1	4.820E+6	1.945E+7	3.050E-2
3.162E+1	4.080E+6	1.761E+7	3.098E-2
3.548E+1	3.450E+6	1.591E+7	3.141E-2
3.981E+1	2.915E+6	1.436E+7	3.181E-2
4.467E+1	2.461E+6	1.295E+7	3.218E-2
5.012E+1	2.084E+6	1.166E+7	3.252E-2
5.623E+1	1.754E+6	1.050E+7	3.284E-2
6.310E+1	1.483E+6	9.436E+6	3.312E-2
7.079E+1	1.254E+6	8.478E+6	3.339E-2
7.943E+1	1.062E+6	7.611E+6	3.363E-2
8.913E+1	9.006E+5	6.827E+6	3.385E-2
1.000E+2	7.657E+5	6.122E+6	3.406E-2
1.122E+2	6.541E+5	5.490E+6	3.427E-2
1.259E+2	5.601E+5	4.919E+6	3.445E-2
1.413E+2	4.815E+5	4.408E+6	3.464E-2
1.585E+2	4.162E+5	3.949E+6	3.482E-2
1.778E+2	3.612E+5	3.536E+6	3.498E-2
1.995E+2	3.157E+5	3.168E+6	3.516E-2
2.239E+2	2.776E+5	2.836E+6	3.533E-2
2.512E+2	2.456E+5	2.539E+6	3.549E-2
2.818E+2	2.184E+5	2.268E+6	3.556E-2
3.162E+2	1.941E+5	2.028E+6	3.568E-2
3.548E+2	1.748E+5	1.818E+6	3.588E-2
3.981E+2	1.581E+5	1.627E+6	3.602E-2
4.467E+2	1.443E+5	1.455E+6	3.617E-2
5.012E+2	1.314E+5	1.302E+6	3.630E-2
5.623E+2	1.212E+5	1.167E+6	3.650E-2
6.310E+2	1.122E+5	1.045E+6	3.669E-2
7.079E+2	1.043E+5	9.366E+5	3.689E-2
7.943E+2	9.728E+4	8.392E+5	3.708E-2
8.913E+2	9.103E+4	7.520E+5	3.729E-2
1.000E+3	8.558E+4	6.744E+5	3.752E-2
1.122E+3	8.071E+4	6.049E+5	3.776E-2
1.259E+3	7.632E+4	5.428E+5	3.802E-2
1.413E+3	7.228E+4	4.872E+5	3.828E-2
1.585E+3	6.862E+4	4.374E+5	3.857E-2
1.778E+3	6.520E+4	3.928E+5	3.886E-2
1.995E+3	6.206E+4	3.530E+5	3.919E-2
2.239E+3	5.913E+4	3.176E+5	3.955E-2
2.512E+3	5.635E+4	2.858E+5	3.993E-2
2.818E+3	5.372E+4	2.574E+5	4.036E-2
3.162E+3	5.128E+4	2.321E+5	4.083E-2
3.548E+3	4.892E+4	2.093E+5	4.132E-2
3.981E+3	4.666E+4	1.890E+5	4.185E-2
4.467E+3	4.449E+4	1.707E+5	4.243E-2
5.012E+3	4.240E+4	1.545E+5	4.306E-2
5.623E+3	4.035E+4	1.399E+5	4.377E-2
6.310E+3	3.853E+4	1.271E+5	4.461E-2
7.079E+3	3.666E+4	1.154E+5	4.545E-2
7.943E+3	3.492E+4	1.049E+5	4.636E-2
8.913E+3	3.313E+4	9.534E+4	4.727E-2

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	3.150E+4	8.688E+4	4.833E-2
1.122E+4	2.989E+4	7.918E+4	4.942E-2
1.259E+4	2.836E+4	7.224E+4	5.059E-2
1.413E+4	2.686E+4	6.598E+4	5.185E-2
1.585E+4	2.544E+4	6.033E+4	5.319E-2
1.778E+4	2.407E+4	5.519E+4	5.459E-2
1.995E+4	2.275E+4	5.057E+4	5.613E-2
2.239E+4	2.151E+4	4.636E+4	5.774E-2
2.512E+4	2.030E+4	4.258E+4	5.950E-2
2.818E+4	1.917E+4	3.917E+4	6.142E-2
3.162E+4	1.807E+4	3.604E+4	6.341E-2
3.548E+4	1.701E+4	3.319E+4	6.551E-2
3.981E+4	1.600E+4	3.059E+4	6.775E-2
4.467E+4	1.503E+4	2.826E+4	7.022E-2
5.012E+4	1.413E+4	2.614E+4	7.287E-2
5.623E+4	1.325E+4	2.417E+4	7.562E-2
6.310E+4	1.241E+4	2.237E+4	7.852E-2
7.079E+4	1.161E+4	2.074E+4	8.167E-2
7.943E+4	1.085E+4	1.923E+4	8.497E-2
8.913E+4	1.012E+4	1.784E+4	8.848E-2
1.000E+5	9.419E+3	1.656E+4	9.214E-2
1.122E+5	8.756E+3	1.538E+4	9.602E-2
1.259E+5	8.127E+3	1.430E+4	1.002E-1
1.413E+5	7.530E+3	1.330E+4	1.045E-1
1.585E+5	6.969E+3	1.234E+4	1.088E-1
1.778E+5	6.423E+3	1.147E+4	1.135E-1
1.995E+5	5.918E+3	1.067E+4	1.184E-1
2.239E+5	5.442E+3	9.926E+3	1.236E-1
2.512E+5	4.994E+3	9.230E+3	1.290E-1
2.818E+5	4.574E+3	8.580E+3	1.345E-1
3.162E+5	4.180E+3	7.969E+3	1.402E-1
3.548E+5	3.813E+3	7.399E+3	1.460E-1
3.981E+5	3.472E+3	6.863E+3	1.520E-1
4.467E+5	3.156E+3	6.360E+3	1.581E-1
5.012E+5	2.863E+3	5.886E+3	1.641E-1
5.623E+5	2.593E+3	5.445E+3	1.703E-1
6.310E+5	2.346E+3	5.031E+3	1.766E-1
7.079E+5	2.120E+3	4.644E+3	1.829E-1
7.943E+5	1.915E+3	4.282E+3	1.892E-1
8.913E+5	1.728E+3	3.946E+3	1.956E-1
1.000E+6	1.558E+3	3.631E+3	2.020E-1
1.122E+6	1.405E+3	3.339E+3	2.084E-1
1.259E+6	1.267E+3	3.067E+3	2.148E-1
1.413E+6	1.142E+3	2.815E+3	2.212E-1
1.585E+6	1.030E+3	2.582E+3	2.276E-1
1.778E+6	9.286E+2	2.365E+3	2.340E-1
1.995E+6	8.387E+2	2.164E+3	2.403E-1
2.239E+6	7.617E+2	1.976E+3	2.461E-1
2.512E+6	6.922E+2	1.817E+3	2.540E-1
2.818E+6	6.221E+2	1.663E+3	2.608E-1
3.162E+6	5.900E+2	1.506E+3	2.650E-1
3.289E+6	5.800E+2	1.475E+3	2.700E-1
3.607E+6	5.700E+2	1.374E+3	2.757E-1
3.955E+6	5.640E+2	1.297E+3	2.854E-1
4.336E+6	4.902E+2	1.230E+3	2.968E-1
4.755E+6	4.833E+2	1.146E+3	3.032E-1
5.213E+6	4.248E+2	1.041E+3	3.019E-1
5.716E+6	3.929E+2	9.438E+2	3.050E-1
6.268E+6	3.682E+2	8.811E+2	3.072E-1
6.873E+6	3.649E+2	7.925E+2	3.130E-1

Liver

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
7.536E+6	3.562E+2	7.589E+2	3.182E-1
8.263E+6	3.422E+2	7.446E+2	3.423E-1
9.060E+6	2.882E+2	6.944E+2	3.500E-1
9.934E+6	2.187E+2	6.424E+2	3.550E-1
1.089E+7	2.206E+2	5.941E+2	3.600E-1
1.194E+7	2.255E+2	5.463E+2	3.630E-1
1.310E+7	2.134E+2	5.010E+2	3.650E-1
1.436E+7	2.146E+2	4.632E+2	3.700E-1
1.574E+7	1.979E+2	4.264E+2	3.735E-1
1.726E+7	1.811E+2	3.920E+2	3.765E-1
1.893E+7	1.663E+2	3.661E+2	3.855E-1
2.075E+7	1.576E+2	3.413E+2	3.941E-1
2.276E+7	1.493E+2	3.162E+2	4.003E-1
2.495E+7	1.403E+2	2.916E+2	4.049E-1
2.736E+7	1.330E+2	2.739E+2	4.169E-1
3.000E+7	1.262E+2	2.543E+2	4.244E-1
3.289E+7	1.189E+2	2.363E+2	4.325E-1
3.607E+7	1.141E+2	2.194E+2	4.401E-1
3.955E+7	1.096E+2	2.046E+2	4.502E-1
4.336E+7	1.032E+2	1.900E+2	4.583E-1
4.755E+7	9.743E+1	1.765E+2	4.669E-1
5.213E+7	9.334E+1	1.637E+2	4.748E-1
5.716E+7	8.764E+1	1.528E+2	4.858E-1
6.268E+7	8.319E+1	1.410E+2	4.915E-1
6.873E+7	7.925E+1	1.307E+2	4.998E-1
7.536E+7	7.555E+1	1.208E+2	5.064E-1
8.263E+7	7.229E+1	1.119E+2	5.142E-1
9.060E+7	7.002E+1	1.030E+2	5.194E-1
9.934E+7	6.774E+1	9.534E+1	5.269E-1
1.089E+8	6.581E+1	8.843E+1	5.359E-1
1.194E+8	6.408E+1	8.205E+1	5.452E-1
1.310E+8	6.261E+1	7.636E+1	5.563E-1
1.436E+8	6.075E+1	7.093E+1	5.666E-1
1.574E+8	5.909E+1	6.524E+1	5.714E-1
1.726E+8	5.815E+1	5.999E+1	5.762E-1
1.893E+8	5.710E+1	5.545E+1	5.840E-1
2.075E+8	5.586E+1	5.141E+1	5.936E-1
2.276E+8	5.475E+1	4.768E+1	6.036E-1
2.495E+8	5.383E+1	4.416E+1	6.131E-1
2.736E+8	5.322E+1	4.081E+1	6.212E-1
3.000E+8	5.263E+1	3.783E+1	6.314E-1
3.289E+8	5.179E+1	3.508E+1	6.420E-1
3.607E+8	5.121E+1	3.256E+1	6.533E-1
3.955E+8	5.079E+1	3.041E+1	6.690E-1
4.336E+8	5.034E+1	2.819E+1	6.801E-1
4.755E+8	4.986E+1	2.640E+1	6.984E-1
5.213E+8	4.942E+1	2.471E+1	7.167E-1
5.716E+8	4.900E+1	2.314E+1	7.359E-1
6.268E+8	4.865E+1	2.177E+1	7.591E-1
6.873E+8	4.833E+1	2.057E+1	7.865E-1
7.536E+8	4.800E+1	1.943E+1	8.147E-1
8.263E+8	4.747E+1	1.870E+1	8.598E-1
9.060E+8	4.744E+1	1.750E+1	8.822E-1
9.934E+8	4.673E+1	1.610E+1	8.900E-1
1.025E+9	4.600E+1	1.579E+1	9.000E-1
1.078E+9	4.532E+1	1.513E+1	9.073E-1
1.133E+9	4.531E+1	1.478E+1	9.319E-1
1.192E+9	4.501E+1	1.461E+1	9.685E-1
1.254E+9	4.490E+1	1.432E+1	9.986E-1
1.318E+9	4.462E+1	1.386E+1	1.017E+0
1.386E+9	4.454E+1	1.368E+1	1.055E+0
1.458E+9	4.433E+1	1.342E+1	1.088E+0
1.533E+9	4.424E+1	1.325E+1	1.130E+0
1.612E+9	4.406E+1	1.310E+1	1.175E+0
1.696E+9	4.379E+1	1.294E+1	1.221E+0
1.783E+9	4.375E+1	1.271E+1	1.261E+0
1.875E+9	4.345E+1	1.261E+1	1.315E+0
1.972E+9	4.332E+1	1.258E+1	1.380E+0
2.074E+9	4.317E+1	1.243E+1	1.434E+0
2.181E+9	4.296E+1	1.245E+1	1.510E+0
2.294E+9	4.280E+1	1.244E+1	1.587E+0
2.412E+9	4.261E+1	1.234E+1	1.656E+0
2.537E+9	4.241E+1	1.237E+1	1.746E+0
2.668E+9	4.221E+1	1.244E+1	1.846E+0
2.806E+9	4.205E+1	1.254E+1	1.957E+0
2.951E+9	4.174E+1	1.248E+1	2.050E+0
3.103E+9	4.149E+1	1.264E+1	2.181E+0
3.263E+9	4.137E+1	1.274E+1	2.313E+0
3.432E+9	4.098E+1	1.279E+1	2.442E+0
3.609E+9	4.079E+1	1.299E+1	2.608E+0
3.796E+9	4.056E+1	1.307E+1	2.760E+0
3.992E+9	4.027E+1	1.323E+1	2.937E+0
4.198E+9	4.012E+1	1.347E+1	3.146E+0
4.415E+9	3.982E+1	1.364E+1	3.351E+0
4.643E+9	3.945E+1	1.410E+1	3.642E+0
4.883E+9	3.906E+1	1.438E+1	3.907E+0
5.135E+9	3.867E+1	1.469E+1	4.197E+0
5.400E+9	3.813E+1	1.504E+1	4.519E+0
5.679E+9	3.755E+1	1.537E+1	4.854E+0
5.972E+9	3.694E+1	1.561E+1	5.187E+0
6.281E+9	3.642E+1	1.594E+1	5.571E+0
6.605E+9	3.583E+1	1.618E+1	5.946E+0
6.946E+9	3.532E+1	1.642E+1	6.347E+0
7.305E+9	3.471E+1	1.665E+1	6.765E+0
7.682E+9	3.394E+1	1.685E+1	7.203E+0
8.079E+9	3.321E+1	1.704E+1	7.659E+0
8.496E+9	3.244E+1	1.728E+1	8.169E+0
8.935E+9	3.172E+1	1.744E+1	8.671E+0
9.397E+9	3.095E+1	1.756E+1	9.181E+0
9.882E+9	3.000E+1	1.763E+1	9.690E+0
1.039E+10	2.923E+1	1.772E+1	1.025E+1
1.093E+10	2.824E+1	1.764E+1	1.072E+1
1.149E+10	2.741E+1	1.749E+1	1.118E+1
1.209E+10	2.671E+1	1.746E+1	1.174E+1
1.271E+10	2.597E+1	1.713E+1	1.211E+1
1.337E+10	2.529E+1	1.694E+1	1.260E+1
1.406E+10	2.451E+1	1.665E+1	1.302E+1
1.478E+10	2.377E+1	1.639E+1	1.348E+1
1.555E+10	2.329E+1	1.613E+1	1.395E+1
1.635E+10	2.281E+1	1.584E+1	1.441E+1
1.720E+10	2.224E+1	1.551E+1	1.484E+1
1.808E+10	2.173E+1	1.531E+1	1.540E+1
1.902E+10	2.119E+1	1.520E+1	1.608E+1
2.000E+10	2.082E+1	1.486E+1	1.653E+1

Lung Deflated

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
3.607E+6	4.220E+2	2.010E+3	4.033E-1
3.955E+6	4.217E+2	1.887E+3	4.157E-1
4.336E+6	3.870E+2	1.737E+3	4.183E-1
4.755E+6	3.783E+2	1.623E+3	4.290E-1
5.213E+6	3.397E+2	1.493E+3	4.340E-1
5.716E+6	2.960E+2	1.360E+3	4.320E-1
6.268E+6	2.780E+2	1.287E+3	4.487E-1
6.873E+6	2.447E+2	1.163E+3	4.443E-1
7.536E+6	2.300E+2	1.080E+3	4.530E-1
8.263E+6	2.153E+2	1.010E+3	4.640E-1
9.060E+6	1.930E+2	9.257E+2	4.660E-1
9.934E+6	1.913E+2	8.423E+2	4.657E-1
1.089E+7	1.733E+2	7.743E+2	4.693E-1
1.194E+7	1.550E+2	7.243E+2	4.810E-1
1.310E+7	1.483E+2	6.677E+2	4.863E-1
1.436E+7	1.440E+2	6.113E+2	4.887E-1
1.574E+7	1.347E+2	5.570E+2	4.880E-1
1.726E+7	1.210E+2	5.197E+2	4.990E-1
1.893E+7	1.153E+2	4.783E+2	5.037E-1
2.075E+7	1.070E+2	4.373E+2	5.053E-1
2.276E+7	1.005E+2	4.023E+2	5.090E-1
2.495E+7	9.520E+1	3.707E+2	5.143E-1
2.736E+7	9.220E+1	3.410E+2	5.187E-1
3.000E+7	8.627E+1	3.127E+2	5.213E-1
3.289E+7	8.313E+1	2.877E+2	5.260E-1
3.607E+7	7.787E+1	2.637E+2	5.290E-1
3.955E+7	7.583E+1	2.427E+2	5.333E-1
4.336E+7	7.237E+1	2.237E+2	5.393E-1
4.755E+7	6.933E+1	2.047E+2	5.413E-1
5.213E+7	6.673E+1	1.880E+2	5.447E-1
5.716E+7	6.510E+1	1.720E+2	5.473E-1
6.268E+7	6.337E+1	1.577E+2	5.503E-1
6.873E+7	6.163E+1	1.450E+2	5.540E-1
7.536E+7	6.027E+1	1.333E+2	5.577E-1
8.263E+7	5.880E+1	1.217E+2	5.600E-1
9.060E+7	5.757E+1	1.117E+2	5.633E-1
9.934E+7	5.637E+1	1.026E+2	5.667E-1
1.089E+8	5.550E+1	9.400E+1	5.707E-1
1.194E+8	5.440E+1	8.647E+1	5.743E-1
1.310E+8	5.367E+1	7.937E+1	5.783E-1
1.436E+8	5.277E+1	7.297E+1	5.830E-1
1.574E+8	5.223E+1	6.703E+1	5.873E-1
1.726E+8	5.177E+1	6.150E+1	5.907E-1
1.893E+8	5.143E+1	5.670E+1	5.970E-1
2.075E+8	5.070E+1	5.207E+1	6.010E-1
2.151E+8	5.530E+1	5.477E+1	6.550E-1
2.262E+8	5.507E+1	5.270E+1	6.630E-1
2.379E+8	5.530E+1	4.943E+1	6.543E-1
2.502E+8	5.517E+1	4.753E+1	6.617E-1
2.631E+8	5.473E+1	4.597E+1	6.727E-1
2.767E+8	5.420E+1	4.380E+1	6.740E-1
2.910E+8	5.380E+1	4.137E+1	6.697E-1
3.060E+8	5.347E+1	4.007E+1	6.817E-1
3.218E+8	5.387E+1	3.837E+1	6.870E-1
3.384E+8	5.343E+1	3.703E+1	6.967E-1
3.559E+8	5.313E+1	3.510E+1	6.943E-1
3.743E+8	5.350E+1	3.373E+1	7.023E-1
3.936E+8	5.323E+1	3.227E+1	7.070E-1
4.140E+8	5.253E+1	3.043E+1	7.010E-1
4.354E+8	5.283E+1	2.947E+1	7.147E-1

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
4.578E+8	5.273E+1	2.860E+1	7.287E-1
4.815E+8	5.257E+1	2.713E+1	7.277E-1
5.064E+8	5.243E+1	2.590E+1	7.297E-1
5.325E+8	5.253E+1	2.487E+1	7.363E-1
5.600E+8	5.213E+1	2.410E+1	7.500E-1
5.889E+8	5.200E+1	2.327E+1	7.620E-1
6.194E+8	5.207E+1	2.250E+1	7.750E-1
6.513E+8	5.193E+1	2.180E+1	7.903E-1
6.850E+8	5.153E+1	2.093E+1	7.977E-1
7.204E+8	5.157E+1	2.027E+1	8.127E-1
7.576E+8	5.140E+1	1.947E+1	8.217E-1
7.967E+8	5.120E+1	1.903E+1	8.437E-1
8.378E+8	5.127E+1	1.840E+1	8.583E-1
8.811E+8	5.103E+1	1.773E+1	8.707E-1
9.266E+8	5.087E+1	1.730E+1	8.920E-1
9.745E+8	5.080E+1	1.677E+1	9.100E-1
1.025E+9	5.060E+1	1.633E+1	9.307E-1
1.078E+9	5.057E+1	1.597E+1	9.560E-1
1.133E+9	5.043E+1	1.550E+1	9.790E-1
1.192E+9	5.027E+1	1.530E+1	1.013E+0
1.254E+9	5.020E+1	1.487E+1	1.037E+0
1.318E+9	5.007E+1	1.470E+1	1.077E+0
1.386E+9	5.000E+1	1.443E+1	1.110E+0
1.458E+9	4.980E+1	1.420E+1	1.153E+0
1.533E+9	4.960E+1	1.387E+1	1.183E+0
1.612E+9	4.957E+1	1.370E+1	1.227E+0
1.696E+9	4.940E+1	1.357E+1	1.280E+0
1.783E+9	4.907E+1	1.343E+1	1.333E+0
1.875E+9	4.910E+1	1.330E+1	1.387E+0
1.972E+9	4.883E+1	1.320E+1	1.447E+0
2.074E+9	4.867E+1	1.313E+1	1.517E+0
2.181E+9	4.853E+1	1.320E+1	1.600E+0
2.294E+9	4.833E+1	1.303E+1	1.663E+0
2.412E+9	4.817E+1	1.310E+1	1.760E+0
2.537E+9	4.790E+1	1.307E+1	1.850E+0
2.668E+9	4.767E+1	1.320E+1	1.967E+0
2.806E+9	4.743E+1	1.323E+1	2.063E+0
2.951E+9	4.727E+1	1.327E+1	2.177E+0
3.103E+9	4.697E+1	1.340E+1	2.313E+0
3.263E+9	4.677E+1	1.360E+1	2.470E+0
3.432E+9	4.647E+1	1.367E+1	2.613E+0
3.609E+9	4.617E+1	1.380E+1	2.773E+0
3.796E+9	4.590E+1	1.393E+1	2.940E+0
3.992E+9	4.563E+1	1.407E+1	3.123E+0
4.198E+9	4.537E+1	1.430E+1	3.340E+0
4.415E+9	4.507E+1	1.450E+1	3.560E+0
4.643E+9	4.470E+1	1.487E+1	3.837E+0
4.883E+9	4.440E+1	1.517E+1	4.123E+0
5.135E+9	4.397E+1	1.553E+1	4.430E+0
5.400E+9	4.337E+1	1.583E+1	4.753E+0
5.679E+9	4.293E+1	1.617E+1	5.103E+0
5.972E+9	4.247E+1	1.643E+1	5.463E+0
6.281E+9	4.170E+1	1.677E+1	5.860E+0
6.605E+9	4.127E+1	1.700E+1	6.240E+0
6.946E+9	4.067E+1	1.713E+1	6.623E+0
7.305E+9	4.010E+1	1.743E+1	7.083E+0
7.682E+9	3.953E+1	1.773E+1	7.587E+0
8.079E+9	3.883E+1	1.790E+1	8.057E+0
8.496E+9	3.837E+1	1.813E+1	8.570E+0
8.935E+9	3.767E+1	1.837E+1	9.130E+0

Lung Deflated

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
9.397E+9	3.693E+1	1.853E+1	9.663E+0
9.882E+9	3.637E+1	1.883E+1	1.037E+1
1.039E+10	3.560E+1	1.903E+1	1.100E+1
1.093E+10	3.510E+1	1.927E+1	1.173E+1
1.149E+10	3.427E+1	1.933E+1	1.233E+1
1.209E+10	3.380E+1	1.957E+1	1.317E+1
1.271E+10	3.270E+1	1.973E+1	1.393E+1
1.337E+10	3.230E+1	2.013E+1	1.500E+1
1.406E+10	3.170E+1	2.043E+1	1.597E+1
1.478E+10	3.060E+1	2.047E+1	1.683E+1
1.555E+10	2.957E+1	2.103E+1	1.820E+1
1.635E+10	2.843E+1	2.103E+1	1.917E+1
1.720E+10	2.763E+1	2.117E+1	2.023E+1
1.808E+10	2.650E+1	2.137E+1	2.147E+1
1.902E+10	2.513E+1	2.123E+1	2.247E+1
2.000E+10	2.397E+1	2.123E+1	2.360E+1

Lung Inflated

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	3.042E+7	4.626E+7	2.573E-2
1.122E+1	2.790E+7	4.338E+7	2.708E-2
1.259E+1	2.492E+7	4.126E+7	2.889E-2
1.350E+1	2.210E+7	3.887E+7	3.054E-2
1.585E+1	1.940E+7	3.647E+7	3.215E-2
1.778E+1	1.676E+7	3.414E+7	3.377E-2
1.995E+1	1.457E+7	3.165E+7	3.513E-2
2.239E+1	1.256E+7	2.931E+7	3.650E-2
2.512E+1	1.077E+7	2.702E+7	3.776E-2
2.818E+1	9.176E+6	2.483E+7	3.893E-2
3.162E+1	7.797E+6	2.274E+7	4.000E-2
3.548E+1	6.646E+6	2.087E+7	4.120E-2
3.981E+1	5.646E+6	1.909E+7	4.227E-2
4.467E+1	4.784E+6	1.739E+7	4.322E-2
5.012E+1	4.036E+6	1.578E+7	4.401E-2
5.623E+1	3.398E+6	1.430E+7	4.472E-2
6.310E+1	2.866E+6	1.293E+7	4.538E-2
7.079E+1	2.408E+6	1.167E+7	4.596E-2
7.943E+1	2.026E+6	1.053E+7	4.655E-2
8.913E+1	1.707E+6	9.494E+6	4.708E-2
1.000E+2	1.439E+6	8.549E+6	4.756E-2
1.122E+2	1.215E+6	7.694E+6	4.803E-2
1.259E+2	1.027E+6	6.919E+6	4.846E-2
1.413E+2	8.694E+5	6.217E+6	4.886E-2
1.585E+2	7.377E+5	5.581E+6	4.921E-2
1.778E+2	6.273E+5	5.006E+6	4.952E-2
1.995E+2	5.357E+5	4.489E+6	4.983E-2
2.239E+2	4.587E+5	4.022E+6	5.010E-2
2.512E+2	3.939E+5	3.601E+6	5.032E-2
2.818E+2	3.401E+5	3.226E+6	5.057E-2
3.162E+2	2.950E+5	2.889E+6	5.082E-2
3.548E+2	2.579E+5	2.591E+6	5.114E-2
3.981E+2	2.295E+5	2.322E+6	5.142E-2
4.467E+2	2.018E+5	2.081E+6	5.171E-2
5.012E+2	1.790E+5	1.865E+6	5.201E-2
5.623E+2	1.606E+5	1.674E+6	5.236E-2
6.310E+2	1.437E+5	1.497E+6	5.255E-2
7.079E+2	1.301E+5	1.344E+6	5.294E-2
7.943E+2	1.176E+5	1.204E+6	5.323E-2
8.913E+2	1.071E+5	1.080E+6	5.356E-2
1.000E+3	9.686E+4	9.688E+5	5.390E-2
1.122E+3	8.899E+4	8.689E+5	5.424E-2
1.259E+3	8.085E+4	7.800E+5	5.463E-2
1.413E+3	7.402E+4	7.005E+5	5.505E-2
1.585E+3	6.780E+4	6.296E+5	5.552E-2
1.778E+3	6.228E+4	5.660E+5	5.600E-2
1.995E+3	5.708E+4	5.086E+5	5.646E-2
2.239E+3	5.243E+4	4.573E+5	5.696E-2
2.512E+3	4.808E+4	4.115E+5	5.751E-2
2.818E+3	4.396E+4	3.698E+5	5.798E-2
3.162E+3	4.107E+4	3.313E+5	5.829E-2
3.548E+3	3.661E+4	2.954E+5	5.832E-2
3.981E+3	3.327E+4	2.658E+5	5.886E-2
4.467E+3	3.082E+4	2.395E+5	5.951E-2
5.012E+3	2.814E+4	2.151E+5	5.997E-2
5.623E+3	2.567E+4	1.933E+5	6.049E-2
6.310E+3	2.346E+4	1.742E+5	6.115E-2
7.079E+3	2.147E+4	1.567E+5	6.170E-2
7.943E+3	1.950E+4	1.410E+5	6.232E-2
8.913E+3	1.789E+4	1.271E+5	6.304E-2

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	1.634E+4	1.144E+5	6.366E-2
1.122E+4	1.486E+4	1.031E+5	6.434E-2
1.259E+4	1.362E+4	9.287E+4	6.505E-2
1.413E+4	1.241E+4	8.353E+4	6.564E-2
1.585E+4	1.138E+4	7.532E+4	6.641E-2
1.778E+4	1.040E+4	6.778E+4	6.706E-2
1.995E+4	9.529E+3	6.108E+4	6.780E-2
2.239E+4	8.755E+3	5.499E+4	6.849E-2
2.512E+4	8.023E+3	4.941E+4	6.905E-2
2.818E+4	7.361E+3	4.450E+4	6.978E-2
3.162E+4	6.775E+3	4.007E+4	7.048E-2
3.548E+4	6.232E+3	3.609E+4	7.124E-2
3.981E+4	5.744E+3	3.256E+4	7.211E-2
4.467E+4	5.292E+3	2.934E+4	7.292E-2
5.012E+4	4.878E+3	2.646E+4	7.377E-2
5.623E+4	4.505E+3	2.388E+4	7.471E-2
6.310E+4	4.149E+3	2.154E+4	7.561E-2
7.079E+4	3.839E+3	1.949E+4	7.674E-2
7.943E+4	3.542E+3	1.759E+4	7.772E-2
8.913E+4	3.263E+3	1.589E+4	7.881E-2
1.000E+5	3.016E+3	1.438E+4	7.997E-2
1.122E+5	2.784E+3	1.299E+4	8.111E-2
1.259E+5	2.567E+3	1.175E+4	8.232E-2
1.413E+5	2.369E+3	1.063E+4	8.353E-2
1.585E+5	2.182E+3	9.620E+3	8.482E-2
1.778E+5	2.015E+3	8.721E+3	8.628E-2
1.995E+5	1.857E+3	7.889E+3	8.757E-2
2.239E+5	1.710E+3	7.147E+3	8.901E-2
2.512E+5	1.578E+3	6.480E+3	9.056E-2
2.818E+5	1.453E+3	5.872E+3	9.207E-2
3.162E+5	1.339E+3	5.323E+3	9.364E-2
3.548E+5	1.233E+3	4.824E+3	9.522E-2
3.981E+5	1.136E+3	4.335E+3	9.600E-2
4.467E+5	1.046E+3	3.883E+3	9.650E-2
5.012E+5	9.645E+2	3.479E+3	9.700E-2
5.623E+5	8.886E+2	3.117E+3	9.750E-2
6.310E+5	8.500E+2	2.792E+3	9.800E-2
6.873E+5	8.000E+2	2.576E+3	9.850E-2
7.536E+5	7.500E+2	2.361E+3	9.900E-2
8.263E+5	7.000E+2	2.160E+3	9.930E-2
9.060E+5	6.500E+2	1.976E+3	9.960E-2
9.934E+5	6.067E+2	1.808E+3	9.990E-2
1.089E+6	5.808E+2	1.683E+3	1.020E-1
1.194E+6	5.600E+2	1.565E+3	1.040E-1
1.310E+6	5.429E+2	1.441E+3	1.050E-1
1.436E+6	5.200E+2	1.327E+3	1.060E-1
1.574E+6	4.900E+2	1.222E+3	1.070E-1
1.726E+6	4.760E+2	1.125E+3	1.080E-1
1.893E+6	4.437E+2	1.044E+3	1.099E-1
2.075E+6	4.227E+2	9.464E+2	1.093E-1
2.276E+6	4.048E+2	9.247E+2	1.171E-1
2.495E+6	3.741E+2	8.358E+2	1.160E-1
2.736E+6	3.654E+2	8.074E+2	1.229E-1
3.000E+6	3.466E+2	7.668E+2	1.280E-1
3.289E+6	3.137E+2	7.049E+2	1.290E-1
3.607E+6	3.004E+2	6.683E+2	1.341E-1
3.955E+6	2.842E+2	6.222E+2	1.369E-1
4.336E+6	2.782E+2	5.861E+2	1.414E-1
4.755E+6	2.582E+2	5.630E+2	1.489E-1
5.213E+6	2.362E+2	5.064E+2	1.469E-1

Lung Inflated

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
5.716E+6	2.070E+2	4.667E+2	1.484E-1
6.268E+6	1.993E+2	4.341E+2	1.514E-1
6.873E+6	1.941E+2	4.181E+2	1.599E-1
7.536E+6	1.999E+2	3.915E+2	1.641E-1
8.263E+6	1.780E+2	3.659E+2	1.682E-1
9.060E+6	1.552E+2	3.466E+2	1.747E-1
9.934E+6	1.500E+2	3.157E+2	1.744E-1
1.089E+7	1.410E+2	2.960E+2	1.794E-1
1.194E+7	1.315E+2	2.766E+2	1.838E-1
1.310E+7	1.225E+2	2.578E+2	1.878E-1
1.436E+7	1.163E+2	2.438E+2	1.947E-1
1.574E+7	1.066E+2	2.300E+2	2.015E-1
1.726E+7	9.883E+1	2.148E+2	2.063E-1
1.893E+7	9.317E+1	2.014E+2	2.121E-1
2.075E+7	8.457E+1	1.862E+2	2.150E-1
2.276E+7	8.018E+1	1.748E+2	2.214E-1
2.495E+7	7.412E+1	1.631E+2	2.264E-1
2.736E+7	6.957E+1	1.515E+2	2.305E-1
3.000E+7	6.424E+1	1.411E+2	2.355E-1
3.289E+7	6.049E+1	1.318E+2	2.412E-1
3.607E+7	5.635E+1	1.222E+2	2.453E-1
3.955E+7	5.316E+1	1.141E+2	2.511E-1
4.336E+7	4.944E+1	1.059E+2	2.555E-1
4.755E+7	4.642E+1	9.848E+1	2.605E-1
5.213E+7	4.387E+1	9.089E+1	2.636E-1
5.716E+7	4.123E+1	8.431E+1	2.681E-1
6.268E+7	3.881E+1	7.815E+1	2.725E-1
6.873E+7	3.688E+1	7.230E+1	2.764E-1
7.536E+7	3.510E+1	6.676E+1	2.799E-1
8.263E+7	3.338E+1	6.176E+1	2.839E-1
9.060E+7	3.199E+1	5.698E+1	2.872E-1
9.934E+7	3.080E+1	5.261E+1	2.908E-1
1.089E+8	2.955E+1	4.865E+1	2.948E-1
1.194E+8	2.858E+1	4.502E+1	2.991E-1
1.310E+8	2.753E+1	4.167E+1	3.036E-1
1.436E+8	2.663E+1	3.842E+1	3.069E-1
1.574E+8	2.596E+1	3.546E+1	3.106E-1
1.726E+8	2.531E+1	3.261E+1	3.132E-1
1.893E+8	2.483E+1	3.005E+1	3.165E-1
2.075E+8	2.423E+1	2.775E+1	3.204E-1
2.276E+8	2.369E+1	2.561E+1	3.243E-1
2.495E+8	2.323E+1	2.365E+1	3.284E-1
2.736E+8	2.290E+1	2.179E+1	3.317E-1
3.000E+8	2.262E+1	2.017E+1	3.367E-1
3.289E+8	2.228E+1	1.860E+1	3.404E-1
3.607E+8	2.201E+1	1.716E+1	3.443E-1
3.955E+8	2.181E+1	1.595E+1	3.510E-1
4.336E+8	2.158E+1	1.476E+1	3.561E-1
4.755E+8	2.150E+1	1.353E+1	3.580E-1
5.213E+8	2.140E+1	1.241E+1	3.600E-1
5.325E+8	2.130E+1	1.225E+1	3.630E-1
5.600E+8	2.120E+1	1.175E+1	3.660E-1
5.889E+8	2.110E+1	1.126E+1	3.691E-1
6.194E+8	2.105E+1	1.074E+1	3.701E-1
6.513E+8	2.100E+1	1.035E+1	3.752E-1
6.850E+8	2.098E+1	1.002E+1	3.818E-1
7.204E+8	2.095E+1	9.599E+0	3.847E-1
7.576E+8	2.093E+1	9.214E+0	3.883E-1
7.967E+8	2.090E+1	8.874E+0	3.933E-1
8.378E+8	2.084E+1	8.444E+0	3.936E-1

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
8.811E+8	2.083E+1	8.258E+0	4.048E-1
9.266E+8	2.077E+1	8.058E+0	4.154E-1
9.745E+8	2.068E+1	7.669E+0	4.157E-1
1.025E+9	2.050E+1	7.501E+0	4.276E-1
1.078E+9	2.048E+1	7.184E+0	4.307E-1
1.133E+9	2.055E+1	7.041E+0	4.439E-1
1.192E+9	2.059E+1	6.854E+0	4.545E-1
1.254E+9	2.048E+1	6.664E+0	4.647E-1
1.318E+9	2.042E+1	6.533E+0	4.791E-1
1.386E+9	2.043E+1	6.384E+0	4.924E-1
1.458E+9	2.032E+1	6.243E+0	5.064E-1
1.533E+9	2.032E+1	6.145E+0	5.242E-1
1.612E+9	2.027E+1	5.946E+0	5.334E-1
1.696E+9	2.025E+1	5.876E+0	5.543E-1
1.783E+9	2.017E+1	5.724E+0	5.679E-1
1.875E+9	2.017E+1	5.602E+0	5.845E-1
1.972E+9	2.011E+1	5.552E+0	6.092E-1
2.074E+9	2.009E+1	5.464E+0	6.305E-1
2.181E+9	2.000E+1	5.382E+0	6.531E-1
2.294E+9	2.005E+1	5.376E+0	6.861E-1
2.412E+9	1.996E+1	5.325E+0	7.146E-1
2.537E+9	1.984E+1	5.339E+0	7.536E-1
2.668E+9	1.978E+1	5.325E+0	7.905E-1
2.806E+9	1.972E+1	5.352E+0	8.354E-1
2.951E+9	1.960E+1	5.387E+0	8.842E-1
3.103E+9	1.951E+1	5.412E+0	9.343E-1
3.263E+9	1.946E+1	5.443E+0	9.882E-1
3.432E+9	1.938E+1	5.497E+0	1.050E+0
3.609E+9	1.926E+1	5.579E+0	1.120E+0
3.796E+9	1.922E+1	5.647E+0	1.192E+0
3.992E+9	1.915E+1	5.685E+0	1.262E+0
4.198E+9	1.912E+1	5.803E+0	1.355E+0
4.415E+9	1.899E+1	5.851E+0	1.437E+0
4.643E+9	1.894E+1	6.006E+0	1.551E+0
4.883E+9	1.879E+1	6.093E+0	1.655E+0
5.135E+9	1.858E+1	6.201E+0	1.771E+0
5.400E+9	1.839E+1	6.365E+0	1.912E+0
5.679E+9	1.815E+1	6.632E+0	2.095E+0
5.972E+9	1.789E+1	6.805E+0	2.261E+0
6.281E+9	1.767E+1	6.951E+0	2.429E+0
6.605E+9	1.746E+1	7.031E+0	2.584E+0
6.946E+9	1.726E+1	7.133E+0	2.757E+0
7.305E+9	1.709E+1	7.189E+0	2.922E+0
7.682E+9	1.682E+1	7.304E+0	3.122E+0
8.079E+9	1.643E+1	7.473E+0	3.359E+0
8.496E+9	1.598E+1	7.693E+0	3.636E+0
8.935E+9	1.561E+1	7.792E+0	3.873E+0
9.397E+9	1.536E+1	7.812E+0	4.084E+0
9.882E+9	1.510E+1	7.861E+0	4.322E+0
1.039E+10	1.474E+1	7.919E+0	4.578E+0
1.093E+10	1.416E+1	7.909E+0	4.809E+0
1.149E+10	1.377E+1	7.947E+0	5.081E+0
1.209E+10	1.358E+1	7.826E+0	5.263E+0
1.271E+10	1.328E+1	7.794E+0	5.511E+0
1.337E+10	1.285E+1	7.762E+0	5.773E+0
1.406E+10	1.242E+1	7.645E+0	5.979E+0
1.478E+10	1.232E+1	7.608E+0	6.258E+0
1.555E+10	1.198E+1	7.571E+0	6.548E+0
1.635E+10	1.152E+1	7.405E+0	6.736E+0
1.720E+10	1.145E+1	7.436E+0	7.113E+0

Lung Inflated

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.808E+10	1.115E+1	7.344E+0	7.389E+0
1.902E+10	1.075E+1	7.134E+0	7.547E+0
2.000E+10	1.066E+1	7.254E+0	8.071E+0

Musle

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+1	4.070E+7	4.010E+8	2.231E-1
1.122E+1	3.550E+7	3.559E+8	2.221E-1
1.259E+1	3.105E+7	3.154E+8	2.209E-1
1.350E+1	2.769E+7	2.798E+8	2.199E-1
1.585E+1	2.564E+7	2.492E+8	2.197E-1
1.778E+1	2.398E+7	2.220E+8	2.197E-1
1.995E+1	2.254E+7	1.983E+8	2.201E-1
2.239E+1	2.155E+7	1.771E+8	2.206E-1
2.512E+1	2.076E+7	1.584E+8	2.214E-1
2.818E+1	2.044E+7	1.419E+8	2.225E-1
3.162E+1	1.967E+7	1.272E+8	2.239E-1
3.548E+1	1.905E+7	1.146E+8	2.262E-1
3.981E+1	1.837E+7	1.032E+8	2.286E-1
4.467E+1	1.771E+7	9.311E+7	2.314E-1
5.012E+1	1.701E+7	8.405E+7	2.343E-1
5.623E+1	1.616E+7	7.592E+7	2.375E-1
6.310E+1	1.531E+7	6.868E+7	2.411E-1
7.079E+1	1.438E+7	6.214E+7	2.447E-1
7.943E+1	1.342E+7	5.630E+7	2.488E-1
8.913E+1	1.246E+7	5.105E+7	2.531E-1
1.000E+2	1.150E+7	4.638E+7	2.580E-1
1.122E+2	1.057E+7	4.217E+7	2.632E-1
1.259E+2	9.590E+6	3.836E+7	2.686E-1
1.413E+2	8.628E+6	3.494E+7	2.746E-1
1.585E+2	7.707E+6	3.181E+7	2.805E-1
1.778E+2	6.815E+6	2.894E+7	2.863E-1
1.995E+2	5.990E+6	2.631E+7	2.920E-1
2.239E+2	5.211E+6	2.389E+7	2.975E-1
2.512E+2	4.510E+6	2.167E+7	3.029E-1
2.818E+2	3.882E+6	1.965E+7	3.081E-1
3.162E+2	3.326E+6	1.778E+7	3.129E-1
3.548E+2	2.831E+6	1.605E+7	3.169E-1
3.981E+2	2.405E+6	1.449E+7	3.210E-1
4.467E+2	2.036E+6	1.306E+7	3.246E-1
5.012E+2	1.719E+6	1.177E+7	3.281E-1
5.623E+2	1.442E+6	1.059E+7	3.312E-1
6.310E+2	1.210E+6	9.513E+6	3.339E-1
7.079E+2	1.014E+6	8.546E+6	3.366E-1
7.943E+2	8.498E+5	7.678E+6	3.393E-1
8.913E+2	7.096E+5	6.890E+6	3.416E-1
1.000E+3	5.935E+5	6.177E+6	3.436E-1
1.122E+3	4.965E+5	5.534E+6	3.454E-1
1.259E+3	4.142E+5	4.955E+6	3.471E-1
1.413E+3	3.467E+5	4.437E+6	3.487E-1
1.585E+3	2.908E+5	3.969E+6	3.500E-1
1.778E+3	2.450E+5	3.546E+6	3.508E-1
1.995E+3	2.054E+5	3.168E+6	3.517E-1
2.239E+3	1.732E+5	2.833E+6	3.528E-1
2.512E+3	1.477E+5	2.532E+6	3.539E-1
2.818E+3	1.241E+5	2.259E+6	3.542E-1
3.162E+3	1.056E+5	2.018E+6	3.550E-1
3.548E+3	9.063E+4	1.800E+6	3.553E-1
3.981E+3	7.815E+4	1.605E+6	3.555E-1
4.467E+3	6.760E+4	1.432E+6	3.559E-1
5.012E+3	5.901E+4	1.279E+6	3.565E-1
5.623E+3	5.185E+4	1.142E+6	3.573E-1
6.310E+3	4.580E+4	1.020E+6	3.579E-1
7.079E+3	4.097E+4	9.107E+5	3.587E-1
7.943E+3	3.677E+4	8.137E+5	3.596E-1
8.913E+3	3.283E+4	7.269E+5	3.604E-1

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+4	3.043E+4	6.508E+5	3.621E-1
1.122E+4	2.802E+4	5.808E+5	3.626E-1
1.259E+4	2.574E+4	5.186E+5	3.632E-1
1.413E+4	2.379E+4	4.631E+5	3.640E-1
1.585E+4	2.220E+4	4.140E+5	3.650E-1
1.778E+4	2.085E+4	3.698E+5	3.659E-1
1.995E+4	1.954E+4	3.302E+5	3.665E-1
2.239E+4	1.845E+4	2.948E+5	3.672E-1
2.512E+4	1.748E+4	2.631E+5	3.676E-1
2.818E+4	1.649E+4	2.351E+5	3.686E-1
3.162E+4	1.569E+4	2.101E+5	3.697E-1
3.548E+4	1.490E+4	1.879E+5	3.709E-1
3.981E+4	1.420E+4	1.680E+5	3.721E-1
4.467E+4	1.351E+4	1.504E+5	3.737E-1
5.012E+4	1.286E+4	1.347E+5	3.755E-1
5.623E+4	1.226E+4	1.207E+5	3.776E-1
6.310E+4	1.169E+4	1.082E+5	3.798E-1
7.079E+4	1.110E+4	9.702E+4	3.821E-1
7.943E+4	1.054E+4	8.707E+4	3.848E-1
8.913E+4	1.002E+4	7.868E+4	3.901E-1
1.000E+5	9.496E+3	7.061E+4	3.928E-1
1.122E+5	8.989E+3	6.345E+4	3.961E-1
1.259E+5	8.493E+3	5.704E+4	3.995E-1
1.413E+5	7.998E+3	5.137E+4	4.037E-1
1.585E+5	7.526E+3	4.632E+4	4.084E-1
1.778E+5	7.056E+3	4.178E+4	4.134E-1
1.995E+5	6.591E+3	3.784E+4	4.200E-1
2.239E+5	6.143E+3	3.453E+4	4.300E-1
2.512E+5	5.709E+3	3.149E+4	4.400E-1
2.818E+5	5.279E+3	2.902E+4	4.550E-1
3.000E+5	5.468E+3	2.816E+4	4.700E-1
3.289E+5	5.028E+3	2.650E+4	4.850E-1
3.607E+5	4.663E+3	2.492E+4	5.000E-1
3.955E+5	4.374E+3	2.340E+4	5.149E-1
4.336E+5	4.035E+3	2.161E+4	5.212E-1
4.755E+5	3.698E+3	2.003E+4	5.299E-1
5.213E+5	3.412E+3	1.847E+4	5.357E-1
5.716E+5	3.107E+3	1.709E+4	5.434E-1
6.268E+5	2.826E+3	1.576E+4	5.495E-1
6.873E+5	2.562E+3	1.456E+4	5.566E-1
7.536E+5	2.372E+3	1.342E+4	5.626E-1
8.263E+5	2.140E+3	1.243E+4	5.712E-1
9.060E+5	1.895E+3	1.148E+4	5.785E-1
9.934E+5	1.732E+3	1.059E+4	5.854E-1
1.089E+6	1.569E+3	9.733E+3	5.898E-1
1.194E+6	1.384E+3	8.990E+3	5.973E-1
1.310E+6	1.247E+3	8.267E+3	6.023E-1
1.436E+6	1.107E+3	7.599E+3	6.070E-1
1.574E+6	9.989E+2	6.984E+3	6.118E-1
1.726E+6	8.806E+2	6.437E+3	6.182E-1
1.893E+6	7.864E+2	5.919E+3	6.233E-1
2.075E+6	6.943E+2	5.440E+3	6.281E-1
2.276E+6	6.188E+2	4.992E+3	6.320E-1
2.495E+6	5.559E+2	4.573E+3	6.349E-1
2.736E+6	4.942E+2	4.190E+3	6.377E-1
3.000E+6	4.558E+2	3.837E+3	6.404E-1
3.289E+6	4.032E+2	3.525E+3	6.450E-1
3.607E+6	3.667E+2	3.232E+3	6.485E-1
3.955E+6	3.239E+2	2.957E+3	6.505E-1
4.336E+6	2.959E+2	2.705E+3	6.525E-1

Musle

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
4.755E+6	2.677E+2	2.481E+3	6.562E-1
5.213E+6	2.439E+2	2.267E+3	6.576E-1
5.716E+6	2.245E+2	2.074E+3	6.595E-1
6.268E+6	2.102E+2	1.898E+3	6.619E-1
6.873E+6	1.976E+2	1.731E+3	6.620E-1
7.536E+6	1.842E+2	1.588E+3	6.659E-1
8.263E+6	1.722E+2	1.450E+3	6.664E-1
9.060E+6	1.586E+2	1.329E+3	6.698E-1
9.934E+6	1.528E+2	1.213E+3	6.703E-1
1.089E+7	1.464E+2	1.111E+3	6.733E-1
1.194E+7	1.438E+2	1.014E+3	6.738E-1
1.310E+7	1.372E+2	9.290E+2	6.768E-1
1.436E+7	1.313E+2	8.467E+2	6.763E-1
1.574E+7	1.257E+2	7.735E+2	6.775E-1
1.726E+7	1.220E+2	7.095E+2	6.814E-1
1.893E+7	1.194E+2	6.493E+2	6.837E-1
2.075E+7	1.162E+2	5.953E+2	6.874E-1
2.276E+7	1.138E+2	5.444E+2	6.892E-1
2.495E+7	1.101E+2	4.982E+2	6.916E-1
2.736E+7	1.093E+2	4.565E+2	6.949E-1
3.000E+7	1.063E+2	4.193E+2	6.999E-1
3.289E+7	1.035E+2	3.848E+2	7.042E-1
3.607E+7	1.018E+2	3.529E+2	7.080E-1
3.955E+7	1.002E+2	3.244E+2	7.138E-1
4.336E+7	9.798E+1	2.976E+2	7.179E-1
4.755E+7	9.630E+1	2.745E+2	7.260E-1
5.213E+7	9.436E+1	2.525E+2	7.324E-1
5.716E+7	9.221E+1	2.326E+2	7.398E-1
6.268E+7	9.020E+1	2.143E+2	7.474E-1
6.873E+7	8.804E+1	1.977E+2	7.559E-1
7.536E+7	8.636E+1	1.821E+2	7.634E-1
8.263E+7	8.435E+1	1.676E+2	7.704E-1
9.060E+7	8.245E+1	1.547E+2	7.800E-1
9.934E+7	8.086E+1	1.429E+2	7.895E-1
1.089E+8	7.914E+1	1.314E+2	7.964E-1
1.194E+8	7.767E+1	1.213E+2	8.057E-1
1.310E+8	7.626E+1	1.120E+2	8.161E-1
1.436E+8	7.481E+1	1.032E+2	8.240E-1
1.574E+8	7.340E+1	9.524E+1	8.342E-1
1.726E+8	7.223E+1	8.780E+1	8.432E-1
1.893E+8	7.108E+1	8.100E+1	8.530E-1
2.075E+8	7.008E+1	7.478E+1	8.634E-1
2.276E+8	6.911E+1	6.909E+1	8.747E-1
2.495E+8	6.829E+1	6.375E+1	8.849E-1
2.736E+8	6.743E+1	5.891E+1	8.966E-1
3.000E+8	6.671E+1	5.451E+1	9.097E-1
3.289E+8	6.603E+1	5.045E+1	9.232E-1
3.607E+8	6.537E+1	4.668E+1	9.366E-1
3.955E+8	6.472E+1	4.322E+1	9.510E-1
4.336E+8	6.421E+1	4.019E+1	9.695E-1
4.755E+8	6.390E+1	3.733E+1	9.874E-1
5.213E+8	6.330E+1	3.491E+1	1.013E+0
5.716E+8	6.272E+1	3.257E+1	1.036E+0
6.268E+8	6.220E+1	3.031E+1	1.057E+0
6.873E+8	6.188E+1	2.833E+1	1.083E+0
7.536E+8	6.165E+1	2.647E+1	1.110E+0
8.263E+8	6.124E+1	2.533E+1	1.164E+0
9.060E+8	6.142E+1	2.355E+1	1.187E+0
9.934E+8	6.068E+1	2.306E+1	1.274E+0
1.025E+9	5.900E+1	2.288E+1	1.305E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.078E+9	5.834E+1	2.231E+1	1.337E+0
1.133E+9	5.819E+1	2.163E+1	1.364E+0
1.192E+9	5.796E+1	2.121E+1	1.407E+0
1.254E+9	5.784E+1	2.053E+1	1.432E+0
1.318E+9	5.759E+1	2.014E+1	1.477E+0
1.386E+9	5.720E+1	1.963E+1	1.514E+0
1.458E+9	5.708E+1	1.927E+1	1.563E+0
1.533E+9	5.685E+1	1.889E+1	1.611E+0
1.612E+9	5.668E+1	1.855E+1	1.664E+0
1.696E+9	5.636E+1	1.819E+1	1.716E+0
1.783E+9	5.619E+1	1.786E+1	1.772E+0
1.875E+9	5.591E+1	1.767E+1	1.844E+0
1.972E+9	5.564E+1	1.737E+1	1.906E+0
2.074E+9	5.547E+1	1.714E+1	1.978E+0
2.181E+9	5.520E+1	1.695E+1	2.057E+0
2.294E+9	5.501E+1	1.687E+1	2.153E+0
2.412E+9	5.472E+1	1.674E+1	2.247E+0
2.537E+9	5.448E+1	1.667E+1	2.353E+0
2.668E+9	5.426E+1	1.658E+1	2.460E+0
2.806E+9	5.407E+1	1.657E+1	2.587E+0
2.951E+9	5.374E+1	1.656E+1	2.718E+0
3.103E+9	5.347E+1	1.647E+1	2.844E+0
3.263E+9	5.322E+1	1.650E+1	2.995E+0
3.432E+9	5.300E+1	1.654E+1	3.158E+0
3.609E+9	5.256E+1	1.660E+1	3.333E+0
3.796E+9	5.247E+1	1.678E+1	3.543E+0
3.992E+9	5.217E+1	1.694E+1	3.763E+0
4.198E+9	5.189E+1	1.709E+1	3.992E+0
4.415E+9	5.149E+1	1.743E+1	4.280E+0
4.643E+9	5.117E+1	1.766E+1	4.561E+0
4.883E+9	5.078E+1	1.810E+1	4.918E+0
5.135E+9	5.018E+1	1.841E+1	5.258E+0
5.400E+9	4.970E+1	1.866E+1	5.605E+0
5.679E+9	4.905E+1	1.897E+1	5.993E+0
5.972E+9	4.845E+1	1.932E+1	6.420E+0
6.281E+9	4.793E+1	1.954E+1	6.827E+0
6.605E+9	4.721E+1	1.990E+1	7.313E+0
6.946E+9	4.669E+1	2.016E+1	7.792E+0
7.305E+9	4.603E+1	2.037E+1	8.276E+0
7.682E+9	4.539E+1	2.076E+1	8.872E+0
8.079E+9	4.459E+1	2.098E+1	9.429E+0
8.496E+9	4.377E+1	2.137E+1	1.010E+1
8.935E+9	4.296E+1	2.172E+1	1.080E+1
9.397E+9	4.224E+1	2.208E+1	1.154E+1
9.882E+9	4.108E+1	2.217E+1	1.219E+1
1.039E+10	4.023E+1	2.260E+1	1.306E+1
1.093E+10	3.911E+1	2.258E+1	1.373E+1
1.149E+10	3.827E+1	2.272E+1	1.453E+1
1.209E+10	3.729E+1	2.267E+1	1.525E+1
1.271E+10	3.648E+1	2.277E+1	1.610E+1
1.337E+10	3.548E+1	2.242E+1	1.668E+1
1.406E+10	3.443E+1	2.256E+1	1.765E+1
1.478E+10	3.358E+1	2.274E+1	1.870E+1
1.555E+10	3.270E+1	2.249E+1	1.945E+1
1.635E+10	3.188E+1	2.260E+1	2.056E+1
1.720E+10	3.090E+1	2.240E+1	2.143E+1
1.808E+10	3.008E+1	2.239E+1	2.253E+1
1.902E+10	2.911E+1	2.232E+1	2.362E+1
2.000E+10	2.827E+1	2.201E+1	2.449E+1

Nerve

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.090E+6	9.352E+2	1.949E+3	1.200E-1
1.310E+6	7.897E+2	1.696E+3	1.200E-1
1.570E+6	6.664E+2	1.508E+3	1.300E-1
1.890E+6	6.138E+2	1.318E+3	1.400E-1
2.280E+6	5.601E+2	1.139E+3	1.400E-1
2.740E+6	4.690E+2	9.788E+2	1.500E-1
3.290E+6	4.047E+2	8.422E+2	1.500E-1
3.950E+6	3.606E+2	7.294E+2	1.600E-1
4.750E+6	3.205E+2	6.390E+2	1.700E-1
5.720E+6	2.811E+2	5.634E+2	1.800E-1
6.870E+6	2.459E+2	4.948E+2	1.900E-1
8.260E+6	2.158E+2	4.330E+2	2.000E-1
9.930E+6	1.918E+2	3.745E+2	2.100E-1
1.190E+7	1.712E+2	3.260E+2	2.200E-1
1.440E+7	1.524E+2	2.857E+2	2.300E-1
1.730E+7	1.378E+2	2.496E+2	2.400E-1
2.080E+7	1.244E+2	2.182E+2	2.500E-1
2.500E+7	1.122E+2	1.907E+2	2.600E-1
3.000E+7	1.017E+2	1.672E+2	2.800E-1
3.610E+7	9.240E+1	1.466E+2	2.900E-1
4.340E+7	8.380E+1	1.282E+2	3.100E-1
5.210E+7	7.620E+1	1.121E+2	3.200E-1
6.270E+7	6.970E+1	9.770E+1	3.400E-1
7.540E+7	6.410E+1	8.490E+1	3.600E-1
9.060E+7	5.930E+1	7.390E+1	3.700E-1
1.090E+8	5.480E+1	6.450E+1	3.900E-1
1.300E+8	4.570E+1	5.380E+1	3.900E-1
1.440E+8	4.480E+1	4.980E+1	4.000E-1
1.590E+8	4.370E+1	4.610E+1	4.100E-1
1.760E+8	4.240E+1	4.250E+1	4.200E-1
1.940E+8	4.120E+1	3.920E+1	4.200E-1
2.150E+8	4.040E+1	3.620E+1	4.300E-1
2.380E+8	3.960E+1	3.340E+1	4.400E-1
2.630E+8	3.880E+1	3.090E+1	4.500E-1
2.910E+8	3.800E+1	2.850E+1	4.600E-1
3.220E+8	3.740E+1	2.630E+1	4.700E-1
3.560E+8	3.680E+1	2.420E+1	4.800E-1
3.940E+8	3.620E+1	2.230E+1	4.900E-1
4.350E+8	3.570E+1	2.060E+1	5.000E-1
4.810E+8	3.510E+1	1.900E+1	5.100E-1
5.330E+8	3.470E+1	1.760E+1	5.200E-1
5.890E+8	3.440E+1	1.630E+1	5.300E-1
6.510E+8	3.420E+1	1.520E+1	5.500E-1
7.200E+8	3.400E+1	1.420E+1	5.700E-1
7.970E+8	3.370E+1	1.320E+1	5.800E-1
8.810E+8	3.340E+1	1.230E+1	6.000E-1
9.740E+8	3.320E+1	1.150E+1	6.300E-1
1.080E+9	3.300E+1	1.090E+1	6.500E-1
1.190E+9	3.280E+1	1.030E+1	6.800E-1
1.320E+9	3.260E+1	9.800E+0	7.200E-1
1.460E+9	3.240E+1	9.300E+0	7.500E-1
1.610E+9	3.230E+1	8.900E+0	8.000E-1
1.780E+9	3.210E+1	8.700E+0	8.600E-1
1.970E+9	3.200E+1	8.400E+0	9.300E-1
2.180E+9	3.180E+1	8.300E+0	1.010E+0
2.410E+9	3.160E+1	8.200E+0	1.100E+0
2.670E+9	3.140E+1	8.200E+0	1.220E+0
2.950E+9	3.120E+1	8.200E+0	1.350E+0
3.260E+9	3.090E+1	8.300E+0	1.510E+0
3.610E+9	3.060E+1	8.500E+0	1.700E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
3.990E+9	3.030E+1	8.700E+0	1.930E+0
4.410E+9	3.000E+1	9.000E+0	2.200E+0
4.880E+9	2.960E+1	9.300E+0	2.540E+0
5.400E+9	2.900E+1	9.700E+0	2.920E+0
5.970E+9	2.840E+1	1.010E+1	3.370E+0
6.600E+9	2.770E+1	1.050E+1	3.860E+0
7.300E+9	2.690E+1	1.080E+1	4.400E+0
8.080E+9	2.610E+1	1.110E+1	4.970E+0
8.940E+9	2.520E+1	1.120E+1	5.570E+0
9.880E+9	2.420E+1	1.130E+1	6.190E+0
1.090E+10	2.340E+1	1.130E+1	6.860E+0
1.210E+10	2.270E+1	1.130E+1	7.600E+0
1.340E+10	2.200E+1	1.130E+1	8.380E+0
1.480E+10	2.140E+1	1.130E+1	9.270E+0
1.640E+10	2.070E+1	1.150E+1	1.047E+1
1.810E+10	2.010E+1	1.190E+1	1.199E+1
2.000E+10	1.960E+1	1.230E+1	1.373E+1

Ovary

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
3.000E+5	1.515E+3	2.130E+4	3.560E-1
3.289E+5	1.380E+3	1.955E+4	3.580E-1
3.607E+5	1.335E+3	1.785E+4	3.590E-1
3.955E+5	1.300E+3	1.640E+4	3.605E-1
4.336E+5	1.215E+3	1.495E+4	3.605E-1
4.755E+5	1.180E+3	1.370E+4	3.625E-1
5.213E+5	1.103E+3	1.260E+4	3.650E-1
5.716E+5	1.079E+3	1.145E+4	3.645E-1
6.268E+5	1.022E+3	1.053E+4	3.665E-1
6.873E+5	9.720E+2	9.620E+3	3.685E-1
7.536E+5	9.595E+2	8.835E+3	3.700E-1
8.263E+5	9.075E+2	8.095E+3	3.720E-1
9.060E+5	8.775E+2	7.410E+3	3.740E-1
9.934E+5	8.340E+2	6.805E+3	3.760E-1
1.089E+6	8.075E+2	6.240E+3	3.780E-1
1.194E+6	7.755E+2	5.720E+3	3.800E-1
1.310E+6	7.380E+2	5.245E+3	3.820E-1
1.436E+6	7.145E+2	4.805E+3	3.845E-1
1.574E+6	6.905E+2	4.420E+3	3.875E-1
1.726E+6	6.550E+2	4.060E+3	3.900E-1
1.893E+6	6.305E+2	3.735E+3	3.930E-1
2.075E+6	6.030E+2	3.425E+3	3.955E-1
2.276E+6	5.865E+2	3.155E+3	4.000E-1
2.495E+6	5.590E+2	2.905E+3	4.030E-1
2.736E+6	5.270E+2	2.670E+3	4.065E-1
3.000E+6	5.085E+2	2.465E+3	4.110E-1
3.289E+6	4.885E+2	2.275E+3	4.155E-1
3.607E+6	4.595E+2	2.090E+3	4.195E-1
3.955E+6	4.395E+2	1.925E+3	4.230E-1
4.336E+6	4.250E+2	1.775E+3	4.285E-1
4.755E+6	4.010E+2	1.635E+3	4.340E-1
5.213E+6	3.845E+2	1.515E+3	4.390E-1
5.716E+6	3.630E+2	1.395E+3	4.450E-1
6.268E+6	3.515E+2	1.290E+3	4.500E-1
6.873E+6	3.315E+2	1.200E+3	4.575E-1
7.536E+6	3.155E+2	1.105E+3	4.625E-1
8.263E+6	3.015E+2	1.020E+3	4.680E-1
9.060E+6	2.865E+2	9.470E+2	4.765E-1
9.934E+6	2.740E+2	8.760E+2	4.840E-1
1.089E+7	2.600E+2	8.095E+2	4.905E-1
1.194E+7	2.470E+2	7.520E+2	5.000E-1
1.310E+7	2.350E+2	6.955E+2	5.070E-1
1.436E+7	2.250E+2	6.440E+2	5.140E-1
1.574E+7	2.120E+2	5.965E+2	5.225E-1
1.726E+7	2.030E+2	5.525E+2	5.310E-1
1.893E+7	1.935E+2	5.135E+2	5.410E-1
2.075E+7	1.835E+2	4.760E+2	5.495E-1
2.276E+7	1.735E+2	4.420E+2	5.590E-1
2.495E+7	1.665E+2	4.095E+2	5.690E-1
2.736E+7	1.580E+2	3.815E+2	5.805E-1
3.000E+7	1.510E+2	3.535E+2	5.900E-1
3.289E+7	1.435E+2	3.280E+2	6.005E-1
3.607E+7	1.380E+2	3.045E+2	6.110E-1
3.955E+7	1.320E+2	2.840E+2	6.250E-1
4.336E+7	1.260E+2	2.640E+2	6.360E-1
4.755E+7	1.205E+2	2.450E+2	6.480E-1
5.213E+7	1.140E+2	2.285E+2	6.625E-1
5.716E+7	1.095E+2	2.120E+2	6.745E-1
6.268E+7	1.045E+2	1.970E+2	6.885E-1
6.873E+7	9.930E+1	1.840E+2	7.025E-1

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
7.536E+7	9.530E+1	1.705E+2	7.150E-1
8.263E+7	9.095E+1	1.585E+2	7.285E-1
9.060E+7	8.740E+1	1.470E+2	7.425E-1
9.934E+7	8.410E+1	1.370E+2	7.570E-1
1.089E+8	8.050E+1	1.275E+2	7.710E-1
1.194E+8	7.780E+1	1.180E+2	7.840E-1
1.310E+8	7.520E+1	1.095E+2	7.990E-1
1.436E+8	7.250E+1	1.015E+2	8.110E-1
1.574E+8	7.020E+1	9.405E+1	8.250E-1
1.726E+8	6.815E+1	8.725E+1	8.380E-1
1.893E+8	6.625E+1	8.080E+1	8.510E-1
2.075E+8	6.440E+1	7.490E+1	8.650E-1
2.276E+8	6.275E+1	6.950E+1	8.795E-1
2.495E+8	6.130E+1	6.435E+1	8.930E-1
2.736E+8	6.000E+1	5.970E+1	9.085E-1
3.000E+8	5.890E+1	5.530E+1	9.235E-1
3.060E+8	5.535E+1	5.675E+1	9.670E-1
3.218E+8	5.500E+1	5.475E+1	9.795E-1
3.384E+8	5.385E+1	5.225E+1	9.845E-1
3.559E+8	5.320E+1	5.005E+1	9.935E-1
3.743E+8	5.305E+1	4.810E+1	1.002E+0
3.936E+8	5.265E+1	4.650E+1	1.019E+0
4.140E+8	5.225E+1	4.445E+1	1.026E+0
4.354E+8	5.155E+1	4.275E+1	1.033E+0
4.578E+8	5.165E+1	4.130E+1	1.054E+0
4.815E+8	5.085E+1	3.975E+1	1.063E+0
5.064E+8	5.035E+1	3.805E+1	1.073E+0
5.325E+8	5.030E+1	3.635E+1	1.077E+0
5.600E+8	5.015E+1	3.515E+1	1.095E+0
5.889E+8	4.960E+1	3.375E+1	1.105E+0
6.194E+8	4.905E+1	3.275E+1	1.130E+0
6.513E+8	4.905E+1	3.135E+1	1.135E+0
6.850E+8	4.860E+1	3.045E+1	1.160E+0
7.204E+8	4.830E+1	2.955E+1	1.180E+0
7.576E+8	4.795E+1	2.845E+1	1.200E+0
7.967E+8	4.770E+1	2.745E+1	1.215E+0
8.378E+8	4.755E+1	2.650E+1	1.235E+0
8.811E+8	4.710E+1	2.590E+1	1.270E+0
9.266E+8	4.695E+1	2.495E+1	1.290E+0
9.745E+8	4.675E+1	2.420E+1	1.315E+0
1.025E+9	4.640E+1	2.355E+1	1.340E+0
1.078E+9	4.605E+1	2.285E+1	1.370E+0
1.133E+9	4.600E+1	2.230E+1	1.405E+0
1.192E+9	4.575E+1	2.175E+1	1.445E+0
1.254E+9	4.535E+1	2.120E+1	1.480E+0
1.318E+9	4.520E+1	2.070E+1	1.520E+0
1.386E+9	4.490E+1	2.010E+1	1.550E+0
1.458E+9	4.475E+1	1.975E+1	1.600E+0
1.533E+9	4.455E+1	1.940E+1	1.655E+0
1.612E+9	4.410E+1	1.905E+1	1.710E+0
1.696E+9	4.405E+1	1.865E+1	1.760E+0
1.783E+9	4.385E+1	1.830E+1	1.820E+0
1.875E+9	4.355E+1	1.825E+1	1.900E+0
1.972E+9	4.335E+1	1.800E+1	1.975E+0
2.074E+9	4.300E+1	1.765E+1	2.040E+0
2.181E+9	4.290E+1	1.755E+1	2.135E+0
2.294E+9	4.250E+1	1.740E+1	2.220E+0
2.412E+9	4.225E+1	1.725E+1	2.320E+0
2.537E+9	4.195E+1	1.720E+1	2.430E+0
2.668E+9	4.175E+1	1.715E+1	2.550E+0

Ovary

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
2.806E+9	4.140E+1	1.705E+1	2.665E+0
2.951E+9	4.115E+1	1.690E+1	2.780E+0
3.103E+9	4.080E+1	1.700E+1	2.935E+0
3.263E+9	4.040E+1	1.695E+1	3.085E+0
3.432E+9	4.025E+1	1.700E+1	3.245E+0
3.609E+9	3.985E+1	1.720E+1	3.455E+0
3.796E+9	3.945E+1	1.730E+1	3.650E+0
3.992E+9	3.910E+1	1.735E+1	3.855E+0
4.198E+9	3.870E+1	1.745E+1	4.075E+0
4.415E+9	3.820E+1	1.755E+1	4.320E+0
4.643E+9	3.775E+1	1.785E+1	4.620E+0
4.883E+9	3.725E+1	1.805E+1	4.910E+0
5.135E+9	3.680E+1	1.830E+1	5.220E+0
5.400E+9	3.605E+1	1.850E+1	5.560E+0
5.679E+9	3.560E+1	1.855E+1	5.865E+0
5.972E+9	3.485E+1	1.875E+1	6.220E+0
6.281E+9	3.420E+1	1.870E+1	6.540E+0
6.605E+9	3.365E+1	1.895E+1	6.960E+0
6.946E+9	3.315E+1	1.900E+1	7.330E+0
7.305E+9	3.225E+1	1.910E+1	7.765E+0
7.682E+9	3.175E+1	1.905E+1	8.130E+0
8.079E+9	3.095E+1	1.905E+1	8.570E+0
8.496E+9	3.025E+1	1.920E+1	9.070E+0
8.935E+9	2.965E+1	1.930E+1	9.590E+0
9.397E+9	2.885E+1	1.925E+1	1.006E+1
9.882E+9	2.820E+1	1.930E+1	1.062E+1
1.039E+10	2.745E+1	1.910E+1	1.100E+1
1.093E+10	2.680E+1	1.915E+1	1.165E+1
1.149E+10	2.610E+1	1.895E+1	1.210E+1
1.209E+10	2.555E+1	1.900E+1	1.280E+1
1.271E+10	2.485E+1	1.865E+1	1.320E+1
1.337E+10	2.435E+1	1.930E+1	1.435E+1
1.406E+10	2.370E+1	1.900E+1	1.480E+1
1.478E+10	2.315E+1	1.875E+1	1.540E+1
1.555E+10	2.245E+1	1.900E+1	1.640E+1
1.635E+10	2.175E+1	1.890E+1	1.720E+1
1.720E+10	2.135E+1	1.880E+1	1.795E+1
1.808E+10	2.050E+1	1.890E+1	1.900E+1
1.902E+10	1.985E+1	1.880E+1	1.990E+1
2.000E+10	1.915E+1	1.900E+1	2.115E+1

Skin (Dry)

Frequency (Hz)	Human (In vivo-forearm) Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+2	1.325E+3	3.248E+4	1.807E-4
1.122E+2	1.361E+3	2.873E+4	1.794E-4
1.259E+2	1.317E+3	2.557E+4	1.791E-4
1.413E+2	1.364E+3	2.273E+4	1.786E-4
1.585E+2	1.327E+3	2.021E+4	1.782E-4
1.778E+2	1.315E+3	1.793E+4	1.774E-4
1.995E+2	1.311E+3	1.595E+4	1.771E-4
2.239E+2	1.321E+3	1.420E+4	1.768E-4
2.512E+2	1.451E+3	1.267E+4	1.771E-4
2.818E+2	1.295E+3	1.127E+4	1.768E-4
3.162E+2	1.284E+3	1.005E+4	1.768E-4
3.548E+2	1.271E+3	8.950E+3	1.767E-4
3.981E+2	1.260E+3	7.993E+3	1.770E-4
4.467E+2	1.242E+3	7.134E+3	1.773E-4
5.012E+2	1.230E+3	6.358E+3	1.773E-4
5.623E+2	1.220E+3	5.676E+3	1.776E-4
6.310E+2	1.207E+3	5.071E+3	1.780E-4
7.079E+2	1.199E+3	4.532E+3	1.785E-4
7.943E+2	1.194E+3	4.053E+3	1.791E-4
8.913E+2	1.184E+3	3.624E+3	1.797E-4
1.000E+3	1.173E+3	3.244E+3	1.805E-4
1.122E+3	1.166E+3	2.898E+3	1.809E-4
1.259E+3	1.158E+3	2.599E+3	1.820E-4
1.413E+3	1.149E+3	2.330E+3	1.831E-4
1.585E+3	1.139E+3	2.088E+3	1.841E-4
1.778E+3	1.131E+3	1.876E+3	1.856E-4
1.995E+3	1.122E+3	1.685E+3	1.870E-4
2.239E+3	1.114E+3	1.515E+3	1.887E-4
2.512E+3	1.106E+3	1.365E+3	1.907E-4
2.818E+3	1.101E+3	1.231E+3	1.930E-4
3.162E+3	1.097E+3	1.113E+3	1.958E-4
3.548E+3	1.087E+3	1.007E+3	1.987E-4
3.981E+3	1.082E+3	9.112E+2	2.018E-4
4.467E+3	1.079E+3	8.275E+2	2.056E-4
5.012E+3	1.076E+3	7.547E+2	2.104E-4
5.623E+3	1.068E+3	6.901E+2	2.159E-4
6.310E+3	1.061E+3	6.296E+2	2.210E-4
7.079E+3	1.055E+3	5.768E+2	2.272E-4
7.943E+3	1.047E+3	5.298E+2	2.341E-4
8.913E+3	1.039E+3	4.864E+2	2.412E-4
1.000E+4	1.039E+3	4.482E+2	2.494E-4
1.122E+4	1.037E+3	4.159E+2	2.596E-4
1.259E+4	1.029E+3	3.861E+2	2.704E-4
1.413E+4	1.021E+3	3.583E+2	2.816E-4
1.585E+4	1.012E+3	3.334E+2	2.940E-4
1.778E+4	1.004E+3	3.110E+2	3.077E-4
1.995E+4	9.976E+2	2.909E+2	3.229E-4
2.239E+4	9.908E+2	2.733E+2	3.403E-4
2.512E+4	9.844E+2	2.571E+2	3.592E-4
2.818E+4	9.814E+2	2.435E+2	3.818E-4
3.162E+4	9.749E+2	2.305E+2	4.056E-4
3.548E+4	9.704E+2	2.221E+2	4.383E-4
3.981E+4	9.651E+2	2.058E+2	4.559E-4
4.467E+4	9.705E+2	1.997E+2	4.962E-4
5.012E+4	9.669E+2	1.916E+2	5.342E-4
5.623E+4	9.621E+2	1.851E+2	5.789E-4
6.310E+4	9.558E+2	1.780E+2	6.250E-4
7.079E+4	9.513E+2	1.738E+2	6.845E-4
7.943E+4	9.452E+2	1.686E+2	7.450E-4
8.913E+4	9.400E+2	1.640E+2	8.133E-4

Frequency (Hz)	Human (In vivo-forearm) Current study measurements		
	ε′	ε″	σ (S/m)
1.000E+5	9.340E+2	1.605E+2	8.929E-4
1.122E+5	9.277E+2	1.568E+2	9.785E-4
1.259E+5	9.220E+2	1.542E+2	1.080E-3
1.413E+5	9.183E+2	1.524E+2	1.197E-3
1.585E+5	9.125E+2	1.523E+2	1.343E-3
1.778E+5	9.078E+2	1.515E+2	1.499E-3
1.995E+5	9.009E+2	1.530E+2	1.698E-3
2.239E+5	8.952E+2	1.535E+2	1.912E-3
2.512E+5	8.882E+2	1.551E+2	2.167E-3
2.818E+5	8.829E+2	1.565E+2	2.453E-3
3.162E+5	8.787E+2	1.597E+2	2.810E-3
3.548E+5	8.731E+2	1.630E+2	3.217E-3
3.981E+5	8.662E+2	1.665E+2	3.687E-3
4.467E+5	8.582E+2	1.700E+2	4.226E-3
5.012E+5	8.507E+2	1.744E+2	4.863E-3
5.623E+5	8.435E+2	1.800E+2	5.630E-3
6.310E+5	8.329E+2	1.855E+2	6.512E-3
7.079E+5	8.229E+2	1.908E+2	7.515E-3
7.943E+5	8.137E+2	1.979E+2	8.745E-3
8.913E+5	8.035E+2	2.055E+2	1.019E-2
1.000E+6	7.917E+2	2.133E+2	1.186E-2
1.122E+6	7.786E+2	2.215E+2	1.383E-2
1.259E+6	7.648E+2	2.304E+2	1.614E-2
1.413E+6	7.522E+2	2.405E+2	1.890E-2
1.585E+6	7.356E+2	2.494E+2	2.199E-2
1.778E+6	7.172E+2	2.557E+2	2.530E-2
1.995E+6	7.005E+2	2.604E+2	2.891E-2
2.239E+6	6.993E+2	2.691E+2	3.351E-2
2.512E+6	6.713E+2	2.945E+2	4.116E-2
2.818E+6	6.439E+2	3.068E+2	4.811E-2
3.162E+6	6.169E+2	3.176E+2	5.588E-2
3.548E+6	5.876E+2	3.261E+2	6.438E-2
3.981E+6	5.575E+2	3.325E+2	7.365E-2
4.467E+6	5.271E+2	3.374E+2	8.384E-2
5.012E+6	4.939E+2	3.420E+2	9.537E-2
5.623E+6	4.606E+2	3.431E+2	1.073E-1
6.310E+6	4.269E+2	3.418E+2	1.200E-1
7.079E+6	3.942E+2	3.381E+2	1.331E-1
7.943E+6	3.606E+2	3.346E+2	1.479E-1
8.913E+6	3.261E+2	3.242E+2	1.608E-1
1.000E+7	2.956E+2	3.120E+2	1.736E-1
1.190E+7	3.080E+2	3.615E+2	2.400E-1
1.440E+7	2.601E+2	3.333E+2	2.700E-1
1.730E+7	2.186E+2	3.029E+2	2.900E-1
2.080E+7	1.840E+2	2.731E+2	3.200E-1
2.500E+7	1.552E+2	2.427E+2	3.400E-1
3.000E+7	1.324E+2	2.143E+2	3.600E-1
3.610E+7	1.134E+2	1.883E+2	3.800E-1
4.340E+7	9.737E+1	1.639E+2	4.000E-1
5.210E+7	8.499E+1	1.417E+2	4.100E-1
6.270E+7	7.531E+1	1.222E+2	4.300E-1
7.540E+7	6.762E+1	1.050E+2	4.400E-1
9.060E+7	6.165E+1	8.989E+1	4.500E-1
1.090E+8	5.688E+1	7.692E+1	4.700E-1
1.310E+8	5.314E+1	6.566E+1	4.800E-1
1.570E+8	5.028E+1	5.602E+1	4.900E-1
1.890E+8	4.791E+1	4.788E+1	5.000E-1
2.280E+8	4.594E+1	4.087E+1	5.200E-1
2.740E+8	4.436E+1	3.485E+1	5.300E-1
3.290E+8	4.307E+1	2.973E+1	5.400E-1

Skin (Dry)

Frequency (Hz)	Human (In vivo-forearm) Current study measurements		
	ε'	ε''	σ (S/m)
3.950E+8	4.204E+1	2.542E+1	5.600E-1
4.750E+8	4.120E+1	2.183E+1	5.800E-1
5.720E+8	4.051E+1	1.890E+1	6.000E-1
6.870E+8	4.007E+1	1.665E+1	6.400E-1
8.260E+8	3.964E+1	1.479E+1	6.800E-1
9.930E+8	3.952E+1	1.290E+1	7.100E-1
1.080E+9	3.995E+1	1.197E+1	7.200E-1
1.190E+9	3.970E+1	1.145E+1	7.600E-1
1.320E+9	3.931E+1	1.097E+1	8.000E-1
1.460E+9	3.909E+1	1.054E+1	8.600E-1
1.610E+9	3.877E+1	1.022E+1	9.200E-1
1.780E+9	3.843E+1	9.970E+0	9.900E-1
1.970E+9	3.816E+1	9.830E+0	1.080E+0
2.180E+9	3.786E+1	9.720E+0	1.180E+0
2.410E+9	3.762E+1	9.590E+0	1.290E+0
2.670E+9	3.730E+1	9.550E+0	1.420E+0
2.950E+9	3.694E+1	9.550E+0	1.570E+0
3.260E+9	3.663E+1	9.630E+0	1.750E+0
3.610E+9	3.631E+1	9.790E+0	1.970E+0
3.990E+9	3.594E+1	1.002E+1	2.220E+0
4.410E+9	3.554E+1	1.033E+1	2.540E+0
4.880E+9	3.509E+1	1.070E+1	2.910E+0
5.400E+9	3.449E+1	1.110E+1	3.330E+0
5.970E+9	3.383E+1	1.157E+1	3.840E+0
6.600E+9	3.313E+1	1.202E+1	4.420E+0
7.300E+9	3.231E+1	1.244E+1	5.060E+0
8.080E+9	3.143E+1	1.286E+1	5.780E+0
8.940E+9	3.048E+1	1.319E+1	6.550E+0
9.880E+9	2.950E+1	1.343E+1	7.380E+0
1.090E+10	2.852E+1	1.364E+1	8.300E+0
1.210E+10	2.757E+1	1.390E+1	9.340E+0
1.340E+10	2.665E+1	1.415E+1	1.052E+1
1.480E+10	2.563E+1	1.437E+1	1.182E+1
1.640E+10	2.451E+1	1.459E+1	1.327E+1
1.810E+10	2.340E+1	1.483E+1	1.492E+1
2.000E+10	2.227E+1	1.512E+1	1.682E+1

Skin (Wet)

Frequency (Hz)	Human (In vivo-forearm) Current study measurements		
	ε′	ε″	σ (S/m)
1.995E+1	8.045E+4	2.600E+5	2.887E-4
2.239E+1	7.563E+4	2.394E+5	2.981E-4
2.512E+1	7.540E+4	2.133E+5	2.981E-4
2.818E+1	7.352E+4	1.905E+5	2.987E-4
3.162E+1	7.147E+4	1.705E+5	2.999E-4
3.548E+1	6.956E+4	1.526E+5	3.013E-4
3.981E+1	6.808E+4	1.362E+5	3.017E-4
4.467E+1	6.668E+4	1.221E+5	3.034E-4
5.012E+1	6.797E+4	1.107E+5	3.087E-4
5.623E+1	6.300E+4	9.829E+4	3.075E-4
6.310E+1	6.144E+4	8.917E+4	3.130E-4
7.079E+1	6.039E+4	8.030E+4	3.163E-4
7.943E+1	5.889E+4	7.264E+4	3.210E-4
8.913E+1	5.762E+4	6.579E+4	3.262E-4
1.000E+2	5.629E+4	5.969E+4	3.321E-4
1.122E+2	5.524E+4	5.445E+4	3.399E-4
1.259E+2	5.406E+4	4.962E+4	3.475E-4
1.413E+2	5.297E+4	4.533E+4	3.563E-4
1.585E+2	5.192E+4	4.147E+4	3.656E-4
1.778E+2	5.087E+4	3.795E+4	3.754E-4
1.995E+2	4.993E+4	3.478E+4	3.861E-4
2.239E+2	4.898E+4	3.195E+4	3.979E-4
2.512E+2	4.813E+4	2.942E+4	4.112E-4
2.818E+2	4.723E+4	2.709E+4	4.248E-4
3.162E+2	4.642E+4	2.503E+4	4.403E-4
3.548E+2	4.567E+4	2.318E+4	4.575E-4
3.981E+2	4.491E+4	2.147E+4	4.755E-4
4.467E+2	4.420E+4	1.995E+4	4.958E-4
5.012E+2	4.350E+4	1.857E+4	5.178E-4
5.623E+2	4.286E+4	1.735E+4	5.429E-4
6.310E+2	4.223E+4	1.624E+4	5.700E-4
7.079E+2	4.162E+4	1.522E+4	5.996E-4
7.943E+2	4.102E+4	1.432E+4	6.330E-4
8.913E+2	4.043E+4	1.350E+4	6.693E-4
1.000E+3	3.987E+4	1.276E+4	7.096E-4
1.122E+3	3.933E+4	1.208E+4	7.541E-4
1.259E+3	3.880E+4	1.149E+4	8.050E-4
1.413E+3	3.827E+4	1.096E+4	8.609E-4
1.585E+3	3.776E+4	1.048E+4	9.238E-4
1.778E+3	3.726E+4	1.005E+4	9.943E-4
1.995E+3	3.676E+4	9.681E+3	1.075E-3
2.239E+3	3.628E+4	9.348E+3	1.164E-3
2.512E+3	3.580E+4	9.067E+3	1.267E-3
2.818E+3	3.534E+4	8.819E+3	1.383E-3
3.162E+3	3.489E+4	8.587E+3	1.511E-3
3.548E+3	3.441E+4	8.421E+3	1.662E-3
3.981E+3	3.395E+4	8.275E+3	1.833E-3
4.467E+3	3.348E+4	8.157E+3	2.027E-3
5.012E+3	3.301E+4	8.072E+3	2.251E-3
5.623E+3	3.254E+4	8.014E+3	2.507E-3
6.310E+3	3.207E+4	7.989E+3	2.804E-3
7.079E+3	3.159E+4	7.981E+3	3.143E-3
7.943E+3	3.110E+4	7.990E+3	3.531E-3
8.913E+3	3.060E+4	8.021E+3	3.977E-3
1.000E+4	3.010E+4	8.079E+3	4.494E-3
1.122E+4	2.958E+4	8.149E+3	5.087E-3
1.259E+4	2.905E+4	8.233E+3	5.766E-3
1.413E+4	2.851E+4	8.345E+3	6.557E-3
1.585E+4	2.793E+4	8.460E+3	7.459E-3
1.778E+4	2.737E+4	8.592E+3	8.500E-3

Frequency (Hz)	Human (In vivo-forearm) Current study measurements		
	ε′	ε″	σ (S/m)
1.995E+4	2.678E+4	8.735E+3	9.696E-3
2.239E+4	2.617E+4	8.884E+3	1.107E-2
2.512E+4	2.554E+4	9.049E+3	1.265E-2
2.818E+4	2.489E+4	9.220E+3	1.446E-2
3.162E+4	2.421E+4	9.385E+3	1.651E-2
3.548E+4	2.352E+4	9.554E+3	1.886E-2
3.981E+4	2.283E+4	9.722E+3	2.153E-2
4.467E+4	2.210E+4	9.890E+3	2.458E-2
5.012E+4	2.134E+4	1.005E+4	2.801E-2
5.623E+4	2.055E+4	1.020E+4	3.191E-2
6.310E+4	1.973E+4	1.033E+4	3.626E-2
7.079E+4	1.889E+4	1.044E+4	4.111E-2
7.943E+4	1.803E+4	1.053E+4	4.655E-2
8.913E+4	1.716E+4	1.061E+4	5.260E-2
1.000E+5	1.626E+4	1.065E+4	5.925E-2
1.122E+5	1.535E+4	1.065E+4	6.646E-2
1.259E+5	1.443E+4	1.063E+4	7.444E-2
1.413E+5	1.351E+4	1.056E+4	8.300E-2
1.585E+5	1.259E+4	1.047E+4	9.228E-2
1.778E+5	1.167E+4	1.033E+4	1.022E-1
1.995E+5	1.077E+4	1.015E+4	1.126E-1
2.239E+5	9.885E+3	9.923E+3	1.236E-1
2.512E+5	9.025E+3	9.656E+3	1.349E-1
2.818E+5	8.193E+3	9.352E+3	1.466E-1
3.162E+5	7.400E+3	9.011E+3	1.585E-1
3.548E+5	6.646E+3	8.638E+3	1.705E-1
3.981E+5	5.945E+3	8.242E+3	1.825E-1
4.467E+5	5.289E+3	7.827E+3	1.945E-1
5.012E+5	4.685E+3	7.396E+3	2.062E-1
5.623E+5	4.133E+3	6.961E+3	2.178E-1
6.310E+5	3.634E+3	6.525E+3	2.290E-1
7.079E+5	3.182E+3	6.092E+3	2.399E-1
7.943E+5	2.775E+3	5.668E+3	2.505E-1
8.913E+5	2.416E+3	5.253E+3	2.605E-1
1.000E+6	2.100E+3	4.854E+3	2.700E-1
1.090E+6	2.906E+3	3.379E+3	2.000E-1
1.310E+6	2.444E+3	3.100E+3	2.300E-1
1.570E+6	1.976E+3	2.795E+3	2.400E-1
1.890E+6	1.640E+3	2.583E+3	2.700E-1
2.280E+6	1.330E+3	2.359E+3	3.000E-1
2.740E+6	1.076E+3	2.078E+3	3.200E-1
3.290E+6	8.826E+2	1.848E+3	3.400E-1
3.950E+6	6.814E+2	1.651E+3	3.600E-1
4.750E+6	5.473E+2	1.440E+3	3.800E-1
5.720E+6	4.484E+2	1.240E+3	3.900E-1
6.870E+6	3.625E+2	1.067E+3	4.100E-1
8.260E+6	2.959E+2	9.175E+2	4.200E-1
9.930E+6	2.442E+2	7.824E+2	4.300E-1
1.190E+7	2.052E+2	6.691E+2	4.400E-1
1.440E+7	1.710E+2	5.703E+2	4.600E-1
1.730E+7	1.448E+2	4.847E+2	4.700E-1
2.080E+7	1.251E+2	4.127E+2	4.800E-1
2.500E+7	1.096E+2	3.499E+2	4.900E-1
3.000E+7	9.797E+1	2.972E+2	5.000E-1
3.610E+7	8.841E+1	2.523E+2	5.100E-1
4.340E+7	8.019E+1	2.133E+2	5.100E-1
5.210E+7	7.383E+1	1.804E+2	5.200E-1
6.270E+7	6.874E+1	1.527E+2	5.300E-1
7.540E+7	6.467E+1	1.291E+2	5.400E-1
9.060E+7	6.154E+1	1.092E+2	5.500E-1

Skin (Wet)

Frequency (Hz)	Human (In vivo-forearm) Current study measurements		
	ε'	ε''	σ (S/m)
1.090E+8	6.000E+1	9.257E+1	5.600E-1
1.310E+8	5.900E+1	7.850E+1	5.700E-1
1.570E+8	5.800E+1	6.653E+1	5.800E-1
1.890E+8	5.700E+1	5.649E+1	5.900E-1
1.940E+8	5.750E+1	5.770E+1	6.200E-1
2.150E+8	5.650E+1	5.287E+1	6.300E-1
2.380E+8	5.624E+1	4.844E+1	6.400E-1
2.630E+8	5.530E+1	4.459E+1	6.500E-1
2.910E+8	5.442E+1	4.110E+1	6.700E-1
3.220E+8	5.345E+1	3.783E+1	6.800E-1
3.560E+8	5.269E+1	3.481E+1	6.900E-1
3.940E+8	5.196E+1	3.206E+1	7.000E-1
4.350E+8	5.131E+1	2.966E+1	7.200E-1
4.810E+8	5.072E+1	2.736E+1	7.300E-1
5.330E+8	5.018E+1	2.526E+1	7.500E-1
5.890E+8	4.980E+1	2.346E+1	7.700E-1
6.510E+8	4.943E+1	2.193E+1	7.900E-1
7.200E+8	4.893E+1	2.053E+1	8.200E-1
7.970E+8	4.851E+1	1.918E+1	8.500E-1
8.810E+8	4.818E+1	1.800E+1	8.800E-1
9.740E+8	4.780E+1	1.700E+1	9.200E-1
1.080E+9	4.752E+1	1.613E+1	9.700E-1
1.190E+9	4.722E+1	1.536E+1	1.020E+0
1.320E+9	4.683E+1	1.469E+1	1.080E+0
1.460E+9	4.651E+1	1.414E+1	1.150E+0
1.610E+9	4.619E+1	1.370E+1	1.230E+0
1.780E+9	4.584E+1	1.335E+1	1.320E+0
1.970E+9	4.548E+1	1.305E+1	1.430E+0
2.180E+9	4.505E+1	1.287E+1	1.560E+0
2.410E+9	4.463E+1	1.280E+1	1.720E+0
2.670E+9	4.422E+1	1.278E+1	1.900E+0
2.950E+9	4.377E+1	1.282E+1	2.100E+0
3.260E+9	4.334E+1	1.294E+1	2.350E+0
3.610E+9	4.287E+1	1.313E+1	2.640E+0
3.990E+9	4.236E+1	1.341E+1	2.980E+0
4.410E+9	4.179E+1	1.378E+1	3.380E+0
4.880E+9	4.113E+1	1.421E+1	3.860E+0
5.400E+9	4.030E+1	1.467E+1	4.410E+0
5.970E+9	3.941E+1	1.517E+1	5.040E+0
6.600E+9	3.848E+1	1.569E+1	5.770E+0
7.300E+9	3.747E+1	1.618E+1	6.580E+0
8.080E+9	3.636E+1	1.665E+1	7.480E+0
8.940E+9	3.512E+1	1.712E+1	8.510E+0
9.880E+9	3.380E+1	1.756E+1	9.650E+0
1.090E+10	3.243E+1	1.789E+1	1.088E+1
1.210E+10	3.107E+1	1.819E+1	1.223E+1
1.340E+10	2.970E+1	1.840E+1	1.368E+1
1.480E+10	2.821E+1	1.852E+1	1.523E+1
1.640E+10	2.667E+1	1.863E+1	1.695E+1
1.810E+10	2.515E+1	1.868E+1	1.879E+1
2.000E+10	2.367E+1	1.870E+1	2.081E+1

Small Intestine

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.089E+6	3.720E+3	1.653E+4	9.993E-1
1.194E+6	3.390E+3	1.553E+4	1.033E+0
1.310E+6	4.117E+3	1.440E+4	1.050E+0
1.436E+6	3.387E+3	1.240E+4	9.910E-1
1.574E+6	3.050E+3	1.210E+4	1.060E+0
1.726E+6	2.847E+3	1.147E+4	1.100E+0
1.893E+6	2.770E+3	1.013E+4	1.070E+0
2.075E+6	2.317E+3	9.117E+3	1.053E+0
2.276E+6	2.613E+3	8.930E+3	1.130E+0
2.495E+6	2.117E+3	8.453E+3	1.177E+0
2.736E+6	1.843E+3	7.383E+3	1.123E+0
3.000E+6	1.867E+3	7.327E+3	1.223E+0
3.289E+6	1.787E+3	6.283E+3	1.150E+0
3.607E+6	1.620E+3	6.343E+3	1.273E+0
3.955E+6	1.357E+3	5.580E+3	1.227E+0
4.336E+6	1.163E+3	5.297E+3	1.277E+0
4.755E+6	1.117E+3	4.773E+3	1.263E+0
5.213E+6	1.027E+3	4.373E+3	1.270E+0
5.716E+6	1.013E+3	4.203E+3	1.337E+0
6.268E+6	9.427E+2	3.830E+3	1.337E+0
6.873E+6	8.927E+2	3.573E+3	1.367E+0
7.536E+6	7.753E+2	3.240E+3	1.360E+0
8.263E+6	6.783E+2	2.983E+3	1.370E+0
9.060E+6	6.287E+2	2.747E+3	1.383E+0
9.934E+6	5.850E+2	2.607E+3	1.440E+0
1.089E+7	5.410E+2	2.390E+3	1.450E+0
1.194E+7	5.027E+2	2.180E+3	1.447E+0
1.310E+7	4.507E+2	2.030E+3	1.477E+0
1.436E+7	4.070E+2	1.870E+3	1.497E+0
1.574E+7	3.897E+2	1.730E+3	1.513E+0
1.726E+7	3.460E+2	1.597E+3	1.530E+0
1.893E+7	3.210E+2	1.467E+3	1.547E+0
2.075E+7	2.923E+2	1.357E+3	1.567E+0
2.276E+7	2.650E+2	1.250E+3	1.583E+0
2.495E+7	2.493E+2	1.143E+3	1.590E+0
2.736E+7	2.340E+2	1.067E+3	1.620E+0
3.000E+7	2.177E+2	9.737E+2	1.627E+0
3.289E+7	2.017E+2	9.017E+2	1.653E+0
3.607E+7	1.860E+2	8.223E+2	1.650E+0
3.955E+7	1.757E+2	7.593E+2	1.670E+0
4.336E+7	1.623E+2	7.023E+2	1.697E+0
4.755E+7	1.527E+2	6.413E+2	1.697E+0
5.213E+7	1.457E+2	5.910E+2	1.713E+0
5.716E+7	1.360E+2	5.423E+2	1.723E+0
6.268E+7	1.293E+2	4.977E+2	1.737E+0
6.873E+7	1.237E+2	4.567E+2	1.747E+0
7.536E+7	1.180E+2	4.200E+2	1.760E+0
8.263E+7	1.130E+2	3.860E+2	1.773E+0
9.060E+7	1.080E+2	3.540E+2	1.783E+0
9.934E+7	1.037E+2	3.247E+2	1.793E+0
1.089E+8	9.980E+1	2.987E+2	1.807E+0
1.194E+8	9.677E+1	2.740E+2	1.823E+0
1.310E+8	9.397E+1	2.513E+2	1.833E+0
1.436E+8	9.107E+1	2.313E+2	1.847E+0
1.574E+8	8.913E+1	2.120E+2	1.857E+0
1.726E+8	8.733E+1	1.947E+2	1.873E+0
1.893E+8	8.550E+1	1.793E+2	1.887E+0
2.075E+8	8.373E+1	1.647E+2	1.897E+0
2.276E+8	8.170E+1	1.510E+2	1.913E+0
2.495E+8	8.017E+1	1.390E+2	1.930E+0

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
2.736E+8	7.897E+1	1.283E+2	1.950E+0
3.000E+8	7.793E+1	1.177E+2	1.967E+0
3.289E+8	7.683E+1	1.087E+2	1.980E+0
3.607E+8	7.570E+1	1.000E+2	2.010E+0
3.955E+8	7.493E+1	9.230E+1	2.030E+0
4.336E+8	7.410E+1	8.520E+1	2.053E+0
4.755E+8	7.307E+1	7.887E+1	2.087E+0
5.213E+8	7.253E+1	7.307E+1	2.117E+0
5.716E+8	7.163E+1	6.777E+1	2.157E+0
6.268E+8	7.097E+1	6.310E+1	2.200E+0
6.873E+8	7.023E+1	5.880E+1	2.250E+0
7.536E+8	6.957E+1	5.493E+1	2.303E+0
8.263E+8	6.863E+1	5.157E+1	2.370E+0
9.060E+8	6.770E+1	4.762E+1	2.400E+0
9.934E+8	6.677E+1	4.397E+1	2.430E+0
1.025E+9	6.308E+1	4.315E+1	2.460E+0
1.078E+9	6.278E+1	4.153E+1	2.490E+0
1.133E+9	6.220E+1	3.997E+1	2.520E+0
1.192E+9	6.205E+1	3.845E+1	2.550E+0
1.254E+9	6.178E+1	3.685E+1	2.570E+0
1.318E+9	6.143E+1	3.545E+1	2.600E+0
1.386E+9	6.093E+1	3.395E+1	2.620E+0
1.458E+9	6.063E+1	3.293E+1	2.673E+0
1.533E+9	6.033E+1	3.200E+1	2.730E+0
1.612E+9	6.010E+1	3.118E+1	2.798E+0
1.696E+9	5.963E+1	3.043E+1	2.873E+0
1.783E+9	5.920E+1	2.965E+1	2.945E+0
1.875E+9	5.895E+1	2.900E+1	3.028E+0
1.972E+9	5.868E+1	2.830E+1	3.103E+0
2.074E+9	5.828E+1	2.775E+1	3.200E+0
2.181E+9	5.795E+1	2.718E+1	3.295E+0
2.294E+9	5.760E+1	2.683E+1	3.423E+0
2.412E+9	5.730E+1	2.640E+1	3.538E+0
2.537E+9	5.690E+1	2.595E+1	3.660E+0
2.668E+9	5.655E+1	2.553E+1	3.790E+0
2.806E+9	5.618E+1	2.523E+1	3.943E+0
2.951E+9	5.598E+1	2.483E+1	4.073E+0
3.103E+9	5.563E+1	2.470E+1	4.263E+0
3.263E+9	5.523E+1	2.453E+1	4.448E+0
3.432E+9	5.483E+1	2.438E+1	4.653E+0
3.609E+9	5.440E+1	2.415E+1	4.850E+0
3.796E+9	5.410E+1	2.415E+1	5.105E+0
3.992E+9	5.358E+1	2.410E+1	5.355E+0
4.198E+9	5.325E+1	2.418E+1	5.648E+0
4.415E+9	5.270E+1	2.418E+1	5.938E+0
4.643E+9	5.228E+1	2.450E+1	6.323E+0
4.883E+9	5.180E+1	2.463E+1	6.688E+0
5.135E+9	5.118E+1	2.470E+1	7.050E+0
5.400E+9	5.050E+1	2.490E+1	7.480E+0
5.679E+9	4.993E+1	2.518E+1	7.955E+0
5.972E+9	4.923E+1	2.513E+1	8.360E+0
6.281E+9	4.848E+1	2.535E+1	8.860E+0
6.605E+9	4.783E+1	2.550E+1	9.368E+0
6.946E+9	4.708E+1	2.568E+1	9.923E+0
7.305E+9	4.648E+1	2.598E+1	1.053E+1
7.682E+9	4.558E+1	2.630E+1	1.120E+1
8.079E+9	4.488E+1	2.663E+1	1.195E+1
8.496E+9	4.390E+1	2.688E+1	1.270E+1
8.935E+9	4.308E+1	2.713E+1	1.348E+1
9.397E+9	4.193E+1	2.738E+1	1.433E+1

Small Intestine

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
9.882E+9	4.080E+1	2.760E+1	1.518E+1
1.039E+10	3.983E+1	2.780E+1	1.605E+1
1.093E+10	3.893E+1	2.785E+1	1.695E+1
1.149E+10	3.770E+1	2.813E+1	1.798E+1
1.209E+10	3.680E+1	2.815E+1	1.895E+1
1.271E+10	3.555E+1	2.833E+1	2.005E+1
1.337E+10	3.440E+1	2.828E+1	2.103E+1
1.406E+10	3.310E+1	2.845E+1	2.225E+1
1.478E+10	3.200E+1	2.823E+1	2.323E+1
1.555E+10	3.075E+1	2.818E+1	2.440E+1
1.635E+10	2.980E+1	2.805E+1	2.550E+1
1.720E+10	2.863E+1	2.823E+1	2.703E+1
1.808E+10	2.735E+1	2.798E+1	2.818E+1
1.902E+10	2.598E+1	2.770E+1	2.930E+1
2.000E+10	2.480E+1	2.753E+1	3.063E+1

Spleen

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	4.770E+7	8.127E+7	4.521E-2
1.122E+1	4.501E+7	7.635E+7	4.765E-2
1.259E+1	4.143E+7	7.102E+7	4.974E-2
1.350E+1	3.898E+7	6.644E+7	5.221E-2
1.585E+1	3.598E+7	6.204E+7	5.470E-2
1.778E+1	3.279E+7	5.805E+7	5.743E-2
1.995E+1	2.985E+7	5.400E+7	5.994E-2
2.239E+1	2.683E+7	5.058E+7	6.299E-2
2.512E+1	2.369E+7	4.706E+7	6.577E-2
2.818E+1	2.110E+7	4.364E+7	6.843E-2
3.162E+1	1.837E+7	4.048E+7	7.122E-2
3.548E+1	1.595E+7	3.740E+7	7.383E-2
3.981E+1	1.371E+7	3.437E+7	7.613E-2
4.467E+1	1.168E+7	3.156E+7	7.843E-2
5.012E+1	9.964E+6	2.886E+7	8.047E-2
5.623E+1	8.463E+6	2.635E+7	8.244E-2
6.310E+1	7.159E+6	2.400E+7	8.424E-2
7.079E+1	6.047E+6	2.182E+7	8.595E-2
7.943E+1	5.097E+6	1.984E+7	8.769E-2
8.913E+1	4.244E+6	1.790E+7	8.877E-2
1.000E+2	3.563E+6	1.620E+7	9.010E-2
1.122E+2	2.975E+6	1.464E+7	9.140E-2
1.259E+2	2.477E+6	1.319E+7	9.240E-2
1.413E+2	2.079E+6	1.188E+7	9.332E-2
1.585E+2	1.727E+6	1.068E+7	9.414E-2
1.778E+2	1.452E+6	9.605E+6	9.502E-2
1.995E+2	1.198E+6	8.612E+6	9.560E-2
2.239E+2	1.005E+6	7.759E+6	9.664E-2
2.512E+2	8.401E+5	6.958E+6	9.724E-2
2.818E+2	6.937E+5	6.240E+6	9.784E-2
3.162E+2	5.848E+5	5.584E+6	9.824E-2
3.548E+2	4.852E+5	5.007E+6	9.883E-2
3.981E+2	4.071E+5	4.486E+6	9.935E-2
4.467E+2	3.429E+5	4.010E+6	9.966E-2
5.012E+2	2.841E+5	3.589E+6	1.001E-1
5.623E+2	2.426E+5	3.211E+6	1.005E-1
6.310E+2	2.004E+5	2.870E+6	1.007E-1
7.079E+2	1.703E+5	2.565E+6	1.010E-1
7.943E+2	1.442E+5	2.293E+6	1.013E-1
8.913E+2	1.239E+5	2.048E+6	1.015E-1
1.000E+3	1.036E+5	1.831E+6	1.018E-1
1.122E+3	9.095E+4	1.635E+6	1.020E-1
1.259E+3	7.845E+4	1.459E+6	1.022E-1
1.413E+3	6.841E+4	1.304E+6	1.025E-1
1.585E+3	6.110E+4	1.166E+6	1.028E-1
1.778E+3	5.309E+4	1.040E+6	1.029E-1
1.995E+3	4.714E+4	9.293E+5	1.031E-1
2.239E+3	4.246E+4	8.297E+5	1.033E-1
2.512E+3	3.811E+4	7.413E+5	1.036E-1
2.818E+3	3.445E+4	6.630E+5	1.040E-1
3.162E+3	3.129E+4	5.924E+5	1.042E-1
3.548E+3	2.853E+4	5.297E+5	1.046E-1
3.981E+3	2.610E+4	4.737E+5	1.049E-1
4.467E+3	2.397E+4	4.232E+5	1.052E-1
5.012E+3	2.196E+4	3.782E+5	1.055E-1
5.623E+3	2.020E+4	3.383E+5	1.058E-1
6.310E+3	1.870E+4	3.025E+5	1.062E-1
7.079E+3	1.724E+4	2.706E+5	1.066E-1
7.943E+3	1.603E+4	2.422E+5	1.070E-1
8.913E+3	1.486E+4	2.166E+5	1.074E-1

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	1.379E+4	1.938E+5	1.078E-1
1.122E+4	1.281E+4	1.735E+5	1.083E-1
1.259E+4	1.193E+4	1.553E+5	1.087E-1
1.413E+4	1.113E+4	1.390E+5	1.092E-1
1.585E+4	1.037E+4	1.244E+5	1.097E-1
1.778E+4	9.727E+3	1.113E+5	1.101E-1
1.995E+4	9.112E+3	9.972E+4	1.107E-1
2.239E+4	8.564E+3	8.938E+4	1.113E-1
2.512E+4	8.049E+3	8.006E+4	1.119E-1
2.818E+4	7.593E+3	7.171E+4	1.124E-1
3.162E+4	7.162E+3	6.424E+4	1.130E-1
3.548E+4	6.771E+3	5.754E+4	1.136E-1
3.981E+4	6.416E+3	5.158E+4	1.142E-1
4.467E+4	6.093E+3	4.625E+4	1.149E-1
5.012E+4	5.792E+3	4.145E+4	1.156E-1
5.623E+4	5.519E+3	3.718E+4	1.163E-1
6.310E+4	5.268E+3	3.336E+4	1.171E-1
7.079E+4	5.036E+3	2.995E+4	1.179E-1
7.943E+4	4.823E+3	2.689E+4	1.188E-1
8.913E+4	4.622E+3	2.416E+4	1.198E-1
1.000E+5	4.430E+3	2.172E+4	1.208E-1
1.122E+5	4.254E+3	1.955E+4	1.220E-1
1.259E+5	4.084E+3	1.759E+4	1.232E-1
1.413E+5	3.927E+3	1.586E+4	1.247E-1
1.585E+5	3.777E+3	1.431E+4	1.262E-1
1.778E+5	3.631E+3	1.292E+4	1.278E-1
1.995E+5	3.500E+3	1.168E+4	1.300E-1
2.239E+5	3.450E+3	1.057E+4	1.315E-1
2.512E+5	3.400E+3	9.581E+3	1.330E-1
2.818E+5	3.300E+3	8.698E+3	1.345E-1
3.000E+5	3.250E+3	7.759E+3	1.360E-1
3.289E+5	3.200E+3	7.301E+3	1.375E-1
3.607E+5	3.150E+3	6.496E+3	1.385E-1
3.955E+5	3.100E+3	6.305E+3	1.405E-1
4.336E+5	3.050E+3	5.726E+3	1.420E-1
4.755E+5	3.000E+3	5.445E+3	1.440E-1
5.213E+5	2.996E+3	5.008E+3	1.453E-1
5.716E+5	2.831E+3	4.653E+3	1.480E-1
6.268E+5	2.563E+3	4.432E+3	1.545E-1
6.873E+5	2.460E+3	4.311E+3	1.648E-1
7.536E+5	2.357E+3	3.820E+3	1.660E-1
8.263E+5	2.261E+3	3.520E+3	1.680E-1
9.060E+5	2.102E+3	3.427E+3	1.727E-1
9.934E+5	2.061E+3	3.143E+3	1.737E-1
1.089E+6	1.959E+3	2.882E+3	1.747E-1
1.194E+6	1.900E+3	2.698E+3	1.792E-1
1.310E+6	1.851E+3	2.595E+3	1.890E-1
1.436E+6	1.800E+3	2.521E+3	2.013E-1
1.574E+6	1.700E+3	2.301E+3	2.015E-1
1.726E+6	1.654E+3	2.219E+3	2.131E-1
1.893E+6	1.554E+3	2.147E+3	2.261E-1
2.075E+6	1.475E+3	1.967E+3	2.272E-1
2.276E+6	1.434E+3	1.975E+3	2.500E-1
2.495E+6	1.331E+3	1.816E+3	2.521E-1
2.736E+6	1.299E+3	1.789E+3	2.723E-1
3.000E+6	1.238E+3	1.734E+3	2.894E-1
3.289E+6	1.131E+3	1.625E+3	2.973E-1
3.607E+6	1.077E+3	1.567E+3	3.143E-1
3.955E+6	1.015E+3	1.483E+3	3.263E-1
4.336E+6	9.757E+2	1.412E+3	3.407E-1

Spleen

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
4.755E+6	9.128E+2	1.384E+3	3.661E-1
5.213E+6	8.217E+2	1.263E+3	3.663E-1
5.716E+6	7.215E+2	1.185E+3	3.767E-1
6.268E+6	6.862E+2	1.108E+3	3.862E-1
6.873E+6	6.639E+2	1.078E+3	4.123E-1
7.536E+6	6.681E+2	1.015E+3	4.257E-1
8.263E+6	5.965E+2	9.577E+2	4.402E-1
9.060E+6	5.231E+2	9.250E+2	4.662E-1
9.934E+6	4.954E+2	8.438E+2	4.664E-1
1.089E+7	4.583E+2	7.987E+2	4.840E-1
1.194E+7	4.238E+2	7.502E+2	4.985E-1
1.436E+7	3.706E+2	6.662E+2	5.322E-1
1.574E+7	3.390E+2	6.323E+2	5.538E-1
1.726E+7	3.126E+2	5.940E+2	5.705E-1
1.893E+7	2.930E+2	5.589E+2	5.885E-1
2.075E+7	2.635E+2	5.194E+2	5.998E-1
2.276E+7	2.475E+2	4.879E+2	6.177E-1
2.495E+7	2.272E+2	4.559E+2	6.329E-1
2.736E+7	2.125E+2	4.237E+2	6.449E-1
3.000E+7	1.949E+2	3.955E+2	6.600E-1
3.289E+7	1.824E+2	3.700E+2	6.772E-1
3.607E+7	1.690E+2	3.438E+2	6.899E-1
3.955E+7	1.588E+2	3.208E+2	7.058E-1
4.336E+7	1.475E+2	2.982E+2	7.193E-1
4.755E+7	1.378E+2	2.777E+2	7.345E-1
5.213E+7	1.295E+2	2.566E+2	7.442E-1
5.716E+7	1.214E+2	2.387E+2	7.591E-1
6.268E+7	1.141E+2	2.213E+2	7.716E-1
6.873E+7	1.078E+2	2.049E+2	7.835E-1
7.536E+7	1.022E+2	1.895E+2	7.945E-1
8.263E+7	9.722E+1	1.758E+2	8.083E-1
9.060E+7	9.252E+1	1.624E+2	8.183E-1
9.934E+7	8.869E+1	1.500E+2	8.290E-1
1.089E+8	8.505E+1	1.389E+2	8.415E-1
1.194E+8	8.208E+1	1.283E+2	8.523E-1
1.310E+8	7.939E+1	1.186E+2	8.643E-1
1.436E+8	7.660E+1	1.098E+2	8.768E-1
1.574E+8	7.442E+1	1.013E+2	8.872E-1
1.726E+8	7.222E+1	9.330E+1	8.960E-1
1.893E+8	7.055E+1	8.603E+1	9.060E-1
2.075E+8	6.892E+1	7.942E+1	9.170E-1
2.276E+8	6.740E+1	7.348E+1	9.303E-1
2.495E+8	6.602E+1	6.790E+1	9.426E-1
2.736E+8	6.490E+1	6.263E+1	9.533E-1
3.000E+8	6.390E+1	5.781E+1	9.649E-1
3.289E+8	6.289E+1	5.346E+1	9.784E-1
3.607E+8	6.208E+1	4.942E+1	9.917E-1
3.955E+8	6.135E+1	4.576E+1	1.007E+0
4.336E+8	6.062E+1	4.241E+1	1.041E+0
4.755E+8	5.999E+1	3.935E+1	1.060E+0
5.213E+8	5.937E+1	3.654E+1	1.082E+0
5.716E+8	5.925E+1	3.404E+1	1.107E+0
6.268E+8	5.910E+1	3.175E+1	1.132E+0
6.873E+8	5.890E+1	2.961E+1	1.174E+0
7.536E+8	5.875E+1	2.800E+1	1.220E+0
7.967E+8	5.860E+1	2.837E+1	1.257E+0
8.378E+8	5.845E+1	2.727E+1	1.271E+0
8.811E+8	5.830E+1	2.630E+1	1.289E+0
9.266E+8	5.815E+1	2.543E+1	1.311E+0
9.745E+8	5.807E+1	2.456E+1	1.331E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.025E+9	5.794E+1	2.387E+1	1.361E+0
1.078E+9	5.760E+1	2.315E+1	1.388E+0
1.133E+9	5.765E+1	2.240E+1	1.412E+0
1.192E+9	5.730E+1	2.180E+1	1.446E+0
1.254E+9	5.697E+1	2.138E+1	1.491E+0
1.318E+9	5.685E+1	2.093E+1	1.535E+0
1.386E+9	5.654E+1	2.038E+1	1.572E+0
1.458E+9	5.636E+1	1.993E+1	1.616E+0
1.533E+9	5.606E+1	1.961E+1	1.673E+0
1.612E+9	5.583E+1	1.931E+1	1.732E+0
1.696E+9	5.571E+1	1.882E+1	1.775E+0
1.783E+9	5.547E+1	1.857E+1	1.843E+0
1.875E+9	5.525E+1	1.829E+1	1.908E+0
1.972E+9	5.508E+1	1.801E+1	1.976E+0
2.074E+9	5.495E+1	1.780E+1	2.054E+0
2.181E+9	5.471E+1	1.756E+1	2.131E+0
2.294E+9	5.459E+1	1.733E+1	2.212E+0
2.412E+9	5.434E+1	1.708E+1	2.293E+0
2.537E+9	5.410E+1	1.681E+1	2.372E+0
2.668E+9	5.388E+1	1.670E+1	2.479E+0
2.806E+9	5.361E+1	1.651E+1	2.577E+0
2.951E+9	5.337E+1	1.641E+1	2.694E+0
3.103E+9	5.311E+1	1.632E+1	2.817E+0
3.263E+9	5.279E+1	1.630E+1	2.959E+0
3.432E+9	5.250E+1	1.639E+1	3.129E+0
3.609E+9	5.218E+1	1.655E+1	3.323E+0
3.796E+9	5.197E+1	1.683E+1	3.553E+0
3.992E+9	5.169E+1	1.696E+1	3.767E+0
4.198E+9	5.145E+1	1.722E+1	4.022E+0
4.415E+9	5.119E+1	1.744E+1	4.283E+0
4.643E+9	5.097E+1	1.765E+1	4.559E+0
4.883E+9	5.064E+1	1.782E+1	4.842E+0
5.135E+9	5.004E+1	1.783E+1	5.094E+0
5.400E+9	4.958E+1	1.808E+1	5.430E+0
5.679E+9	4.891E+1	1.860E+1	5.876E+0
5.972E+9	4.826E+1	1.889E+1	6.276E+0
6.281E+9	4.761E+1	1.934E+1	6.759E+0
6.605E+9	4.712E+1	1.963E+1	7.211E+0
6.946E+9	4.666E+1	1.982E+1	7.660E+0
7.305E+9	4.634E+1	1.979E+1	8.041E+0
7.682E+9	4.581E+1	1.985E+1	8.484E+0
8.079E+9	4.502E+1	2.034E+1	9.141E+0
8.496E+9	4.390E+1	2.089E+1	9.875E+0
8.935E+9	4.300E+1	2.150E+1	1.069E+1
9.397E+9	4.251E+1	2.177E+1	1.138E+1
9.882E+9	4.205E+1	2.174E+1	1.195E+1
1.039E+10	4.132E+1	2.183E+1	1.262E+1
1.093E+10	3.980E+1	2.198E+1	1.336E+1
1.149E+10	3.869E+1	2.257E+1	1.443E+1
1.209E+10	3.833E+1	2.253E+1	1.515E+1
1.271E+10	3.786E+1	2.246E+1	1.588E+1
1.337E+10	3.658E+1	2.268E+1	1.687E+1
1.406E+10	3.524E+1	2.294E+1	1.794E+1
1.478E+10	3.513E+1	2.301E+1	1.892E+1
1.555E+10	3.428E+1	2.290E+1	1.981E+1
1.635E+10	3.251E+1	2.300E+1	2.092E+1
1.720E+10	3.248E+1	2.343E+1	2.241E+1
1.808E+10	3.149E+1	2.314E+1	2.328E+1
1.902E+10	2.974E+1	2.312E+1	2.446E+1
2.000E+10	2.989E+1	2.369E+1	2.636E+1

Stomach

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
3.955E+6	6.553E+2	3.420E+3	7.527E-1
4.336E+6	6.017E+2	3.140E+3	7.577E-1
4.755E+6	5.917E+2	2.933E+3	7.757E-1
5.213E+6	5.313E+2	2.697E+3	7.820E-1
5.716E+6	4.580E+2	2.443E+3	7.773E-1
6.268E+6	4.270E+2	2.313E+3	8.057E-1
6.873E+6	3.753E+2	2.087E+3	7.983E-1
7.536E+6	3.553E+2	1.937E+3	8.117E-1
8.263E+6	3.327E+2	1.807E+3	8.307E-1
9.060E+6	2.960E+2	1.653E+3	8.333E-1
9.934E+6	2.987E+2	1.503E+3	8.320E-1
1.089E+7	2.687E+2	1.383E+3	8.380E-1
1.194E+7	2.390E+2	1.290E+3	8.580E-1
1.310E+7	2.280E+2	1.187E+3	8.667E-1
1.436E+7	2.223E+2	1.087E+3	8.683E-1
1.574E+7	2.080E+2	9.907E+2	8.683E-1
1.726E+7	1.843E+2	9.233E+2	8.867E-1
1.893E+7	1.753E+2	8.497E+2	8.950E-1
2.075E+7	1.617E+2	7.773E+2	8.973E-1
2.276E+7	1.513E+2	7.137E+2	9.037E-1
2.495E+7	1.430E+2	6.577E+2	9.130E-1
2.736E+7	1.373E+2	6.050E+2	9.210E-1
3.000E+7	1.277E+2	5.547E+2	9.257E-1
3.289E+7	1.227E+2	5.100E+2	9.333E-1
3.607E+7	1.140E+2	4.673E+2	9.383E-1
3.955E+7	1.110E+2	4.300E+2	9.460E-1
4.336E+7	1.053E+2	3.960E+2	9.557E-1
4.755E+7	1.002E+2	3.627E+2	9.587E-1
5.213E+7	9.610E+1	3.327E+2	9.653E-1
5.716E+7	9.300E+1	3.050E+2	9.700E-1
6.268E+7	9.017E+1	2.793E+2	9.740E-1
6.873E+7	8.737E+1	2.563E+2	9.800E-1
7.536E+7	8.500E+1	2.353E+2	9.857E-1
8.263E+7	8.260E+1	2.153E+2	9.900E-1
9.060E+7	8.040E+1	1.977E+2	9.943E-1
9.934E+7	8.015E+1	1.810E+2	1.002E+0
1.089E+8	7.980E+1	1.660E+2	1.004E+0
1.194E+8	7.945E+1	1.520E+2	1.013E+0
1.310E+8	7.910E+1	1.400E+2	1.020E+0
1.436E+8	7.875E+1	1.283E+2	1.023E+0
1.574E+8	7.840E+1	1.180E+2	1.033E+0
1.726E+8	7.805E+1	1.083E+2	1.033E+0
1.893E+8	7.770E+1	9.910E+1	1.043E+0
2.075E+8	7.735E+1	9.083E+1	1.050E+0
2.276E+8	7.700E+1	8.343E+1	1.053E+0
2.495E+8	7.665E+1	7.670E+1	1.063E+0
2.736E+8	7.630E+1	7.053E+1	1.073E+0
3.000E+8	7.595E+1	6.480E+1	1.083E+0
3.289E+8	7.560E+1	5.937E+1	1.083E+0
3.607E+8	7.525E+1	5.480E+1	1.100E+0
3.955E+8	7.490E+1	5.050E+1	1.113E+0
4.336E+8	7.455E+1	4.643E+1	1.120E+0
4.755E+8	7.420E+1	4.287E+1	1.133E+0
5.213E+8	7.385E+1	3.967E+1	1.150E+0
5.716E+8	7.350E+1	3.663E+1	1.163E+0
6.268E+8	7.315E+1	3.407E+1	1.187E+0
6.873E+8	7.280E+1	3.137E+1	1.200E+0
7.536E+8	7.245E+1	2.953E+1	1.240E+0
8.263E+8	7.210E+1	2.773E+1	1.273E+0
9.060E+8	7.175E+1	2.583E+1	1.303E+0

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
9.934E+8	7.140E+1	2.410E+1	1.333E+0
1.089E+9	7.105E+1	2.240E+1	1.350E+0
1.133E+9	7.070E+1	2.563E+1	1.400E+0
1.192E+9	7.000E+1	2.510E+1	1.500E+0
1.254E+9	6.987E+1	2.427E+1	1.600E+0
1.318E+9	6.967E+1	2.367E+1	1.700E+0
1.386E+9	6.960E+1	2.287E+1	1.760E+0
1.458E+9	6.937E+1	2.233E+1	1.813E+0
1.533E+9	6.927E+1	2.177E+1	1.850E+0
1.612E+9	6.917E+1	2.127E+1	1.910E+0
1.696E+9	6.910E+1	2.097E+1	1.977E+0
1.783E+9	6.877E+1	2.050E+1	2.033E+0
1.875E+9	6.867E+1	2.000E+1	2.090E+0
1.972E+9	6.847E+1	1.980E+1	2.173E+0
2.074E+9	6.843E+1	1.953E+1	2.253E+0
2.181E+9	6.827E+1	1.933E+1	2.350E+0
2.294E+9	6.810E+1	1.910E+1	2.437E+0
2.412E+9	6.807E+1	1.900E+1	2.547E+0
2.537E+9	6.773E+1	1.890E+1	2.667E+0
2.668E+9	6.753E+1	1.887E+1	2.803E+0
2.806E+9	6.733E+1	1.877E+1	2.927E+0
2.951E+9	6.730E+1	1.870E+1	3.070E+0
3.103E+9	6.700E+1	1.887E+1	3.257E+0
3.263E+9	6.683E+1	1.903E+1	3.450E+0
3.432E+9	6.653E+1	1.917E+1	3.660E+0
3.609E+9	6.637E+1	1.917E+1	3.853E+0
3.796E+9	6.613E+1	1.943E+1	4.110E+0
3.992E+9	6.600E+1	1.967E+1	4.367E+0
4.198E+9	6.567E+1	2.007E+1	4.690E+0
4.415E+9	6.523E+1	2.053E+1	5.043E+0
4.643E+9	6.483E+1	2.097E+1	5.420E+0
4.883E+9	6.450E+1	2.140E+1	5.810E+0
5.135E+9	6.383E+1	2.197E+1	6.270E+0
5.400E+9	6.313E+1	2.227E+1	6.697E+0
5.679E+9	6.267E+1	2.280E+1	7.193E+0
5.972E+9	6.213E+1	2.310E+1	7.680E+0
6.281E+9	6.147E+1	2.360E+1	8.237E+0
6.605E+9	6.097E+1	2.390E+1	8.797E+0
6.946E+9	6.037E+1	2.443E+1	9.440E+0
7.305E+9	5.970E+1	2.500E+1	1.016E+1
7.682E+9	5.933E+1	2.583E+1	1.103E+1
8.079E+9	5.840E+1	2.617E+1	1.177E+1
8.496E+9	5.770E+1	2.683E+1	1.270E+1
8.935E+9	5.700E+1	2.733E+1	1.360E+1
9.397E+9	5.567E+1	2.777E+1	1.450E+1
9.882E+9	5.510E+1	2.873E+1	1.577E+1
1.039E+10	5.387E+1	2.907E+1	1.680E+1
1.093E+10	5.353E+1	2.997E+1	1.820E+1
1.149E+10	5.203E+1	3.007E+1	1.920E+1
1.209E+10	5.147E+1	3.093E+1	2.080E+1
1.271E+10	4.943E+1	3.113E+1	2.203E+1
1.337E+10	4.917E+1	3.270E+1	2.430E+1
1.406E+10	4.843E+1	3.337E+1	2.610E+1
1.478E+10	4.657E+1	3.293E+1	2.707E+1
1.555E+10	4.493E+1	3.483E+1	3.013E+1
1.635E+10	4.340E+1	3.460E+1	3.150E+1
1.720E+10	4.267E+1	3.477E+1	3.330E+1
1.808E+10	4.103E+1	3.580E+1	3.600E+1
1.902E+10	3.890E+1	3.643E+1	3.853E+1
2.000E+10	3.670E+1	3.753E+1	4.177E+1

Tendon

Frequency (Hz)	Bovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	3.508E+7	5.466E+8	3.041E-1
1.122E+1	2.908E+7	4.826E+8	3.012E-1
1.259E+1	2.462E+7	4.254E+8	2.979E-1
1.350E+1	2.217E+7	3.751E+8	2.948E-1
1.585E+1	2.087E+7	3.320E+8	2.927E-1
1.778E+1	1.988E+7	2.937E+8	2.905E-1
1.995E+1	1.901E+7	2.598E+8	2.884E-1
2.239E+1	1.834E+7	2.300E+8	2.865E-1
2.512E+1	1.774E+7	2.037E+8	2.847E-1
2.818E+1	1.717E+7	1.806E+8	2.831E-1
3.162E+1	1.667E+7	1.602E+8	2.818E-1
3.548E+1	1.620E+7	1.423E+8	2.809E-1
3.981E+1	1.575E+7	1.266E+8	2.805E-1
4.467E+1	1.529E+7	1.130E+8	2.807E-1
5.012E+1	1.482E+7	1.010E+8	2.816E-1
5.623E+1	1.434E+7	9.051E+7	2.831E-1
6.310E+1	1.379E+7	8.133E+7	2.855E-1
7.079E+1	1.318E+7	7.328E+7	2.886E-1
7.943E+1	1.253E+7	6.621E+7	2.926E-1
8.913E+1	1.180E+7	5.996E+7	2.973E-1
1.000E+2	1.101E+7	5.443E+7	3.028E-1
1.122E+2	1.018E+7	4.948E+7	3.088E-1
1.259E+2	9.315E+6	4.500E+7	3.151E-1
1.413E+2	8.423E+6	4.095E+7	3.218E-1
1.585E+2	7.532E+6	3.726E+7	3.285E-1
1.778E+2	6.665E+6	3.388E+7	3.352E-1
1.995E+2	5.839E+6	3.079E+7	3.418E-1
2.239E+2	5.062E+6	2.794E+7	3.480E-1
2.512E+2	4.352E+6	2.532E+7	3.539E-1
2.818E+2	3.703E+6	2.292E+7	3.594E-1
3.162E+2	3.134E+6	2.071E+7	3.644E-1
3.548E+2	2.635E+6	1.869E+7	3.689E-1
3.981E+2	2.202E+6	1.683E+7	3.728E-1
4.467E+2	1.832E+6	1.514E+7	3.763E-1
5.012E+2	1.514E+6	1.361E+7	3.795E-1
5.623E+2	1.248E+6	1.222E+7	3.822E-1
6.310E+2	1.024E+6	1.095E+7	3.844E-1
7.079E+2	8.379E+5	9.812E+6	3.865E-1
7.943E+2	6.846E+5	8.787E+6	3.883E-1
8.913E+2	5.559E+5	7.860E+6	3.897E-1
1.000E+3	4.519E+5	7.028E+6	3.910E-1
1.122E+3	3.661E+5	6.280E+6	3.920E-1
1.259E+3	2.958E+5	5.610E+6	3.929E-1
1.413E+3	2.384E+5	5.009E+6	3.936E-1
1.585E+3	1.925E+5	4.472E+6	3.943E-1
1.778E+3	1.547E+5	3.990E+6	3.948E-1
1.995E+3	1.242E+5	3.560E+6	3.952E-1
2.239E+3	9.965E+4	3.176E+6	3.956E-1
2.512E+3	7.988E+4	2.833E+6	3.959E-1
2.818E+3	6.392E+4	2.526E+6	3.961E-1
3.162E+3	5.120E+4	2.252E+6	3.962E-1
3.548E+3	4.103E+4	2.008E+6	3.964E-1
3.981E+3	3.282E+4	1.790E+6	3.965E-1
4.467E+3	2.630E+4	1.596E+6	3.965E-1
5.012E+3	2.107E+4	1.423E+6	3.966E-1
5.623E+3	1.702E+4	1.268E+6	3.967E-1
6.310E+3	1.370E+4	1.130E+6	3.967E-1
7.079E+3	1.112E+4	1.007E+6	3.967E-1
7.943E+3	9.002E+3	8.978E+5	3.968E-1
8.913E+3	7.402E+3	8.001E+5	3.967E-1

Frequency (Hz)	Bovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	6.119E+3	7.132E+5	3.968E-1
1.122E+4	5.053E+3	6.357E+5	3.968E-1
1.259E+4	4.246E+3	5.665E+5	3.968E-1
1.413E+4	3.546E+3	5.050E+5	3.968E-1
1.585E+4	3.013E+3	4.501E+5	3.968E-1
1.778E+4	2.575E+3	4.012E+5	3.969E-1
1.995E+4	2.228E+3	3.576E+5	3.969E-1
2.239E+4	1.931E+3	3.188E+5	3.970E-1
2.512E+4	1.700E+3	2.841E+5	3.971E-1
2.818E+4	1.490E+3	2.533E+5	3.971E-1
3.162E+4	1.322E+3	2.258E+5	3.972E-1
3.548E+4	1.185E+3	2.013E+5	3.973E-1
3.981E+4	1.067E+3	1.794E+5	3.974E-1
4.467E+4	9.602E+2	1.599E+5	3.975E-1
5.012E+4	8.736E+2	1.426E+5	3.976E-1
5.623E+4	7.886E+2	1.271E+5	3.976E-1
6.310E+4	7.121E+2	1.133E+5	3.978E-1
7.079E+4	6.438E+2	1.010E+5	3.979E-1
7.943E+4	5.856E+2	9.008E+4	3.981E-1
8.913E+4	5.390E+2	8.030E+4	3.981E-1
1.000E+5	4.873E+2	7.156E+4	3.981E-1
1.122E+5	4.533E+2	6.378E+4	3.981E-1
1.259E+5	4.294E+2	5.685E+4	3.982E-1
1.413E+5	4.141E+2	5.068E+4	3.983E-1
1.585E+5	3.877E+2	4.518E+4	3.983E-1
1.778E+5	3.662E+2	4.030E+4	3.987E-1
1.995E+5	3.654E+2	3.592E+4	3.988E-1
2.239E+5	3.588E+2	3.206E+4	3.992E-1
2.512E+5	3.153E+2	2.857E+4	3.993E-1
2.818E+5	2.969E+2	2.548E+4	3.995E-1
3.162E+5	2.918E+2	2.274E+4	4.000E-1
3.548E+5	2.694E+2	2.027E+4	4.002E-1
3.981E+5	2.494E+2	1.807E+4	4.003E-1
4.467E+5	2.347E+2	1.611E+4	4.004E-1
5.012E+5	2.252E+2	1.438E+4	4.008E-1
5.623E+5	1.784E+2	1.279E+4	4.002E-1
6.310E+5	1.849E+2	1.139E+4	3.998E-1
7.079E+5	1.729E+2	1.016E+4	4.000E-1
7.943E+5	1.690E+2	9.048E+3	3.998E-1
8.913E+5	1.690E+2	8.065E+3	3.999E-1
1.000E+6	1.700E+2	7.189E+3	3.999E-1
1.122E+6	1.717E+2	6.407E+3	3.999E-1
1.259E+6	1.745E+2	5.714E+3	4.002E-1
1.413E+6	1.758E+2	5.102E+3	4.009E-1
1.585E+6	1.763E+2	4.553E+3	4.014E-1
1.778E+6	1.749E+2	4.067E+3	4.024E-1
1.995E+6	1.707E+2	3.636E+3	4.035E-1
2.239E+6	1.687E+2	3.249E+3	4.046E-1
2.512E+6	1.609E+2	2.915E+3	4.074E-1
2.818E+6	1.477E+2	2.609E+3	4.091E-1
3.162E+6	1.363E+2	2.334E+3	4.107E-1
3.548E+6	1.249E+2	2.089E+3	4.123E-1
3.981E+6	1.156E+2	1.867E+3	4.136E-1
4.467E+6	1.080E+2	1.667E+3	4.143E-1
5.012E+6	1.012E+2	1.488E+3	4.148E-1
5.623E+6	1.000E+2	1.326E+3	4.149E-1
6.310E+6	9.900E+1	1.183E+3	4.151E-1
7.079E+6	9.800E+1	1.053E+3	4.200E-1
7.943E+6	9.700E+1	9.402E+2	4.400E-1
8.913E+6	9.600E+1	8.376E+2	4.600E-1

Tendon

Frequency (Hz)	Bovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+7	9.500E+1	7.484E+2	4.800E-1
1.089E+7	9.400E+1	8.177E+2	4.900E-1
1.194E+7	9.300E+1	7.464E+2	4.959E-1
1.310E+7	9.200E+1	6.841E+2	4.984E-1
1.436E+7	9.100E+1	6.261E+2	5.001E-1
1.574E+7	9.000E+1	5.715E+2	5.005E-1
1.726E+7	8.900E+1	5.249E+2	5.041E-1
1.893E+7	8.800E+1	4.799E+2	5.053E-1
2.075E+7	8.700E+1	4.389E+2	5.068E-1
2.276E+7	8.600E+1	4.029E+2	5.101E-1
2.495E+7	8.500E+1	3.689E+2	5.121E-1
2.736E+7	8.348E+1	3.386E+2	5.154E-1
3.000E+7	8.202E+1	3.099E+2	5.172E-1
3.289E+7	8.016E+1	2.843E+2	5.202E-1
3.607E+7	7.913E+1	2.612E+2	5.242E-1
3.955E+7	7.770E+1	2.397E+2	5.274E-1
4.336E+7	7.597E+1	2.200E+2	5.308E-1
4.755E+7	7.517E+1	2.027E+2	5.362E-1
5.213E+7	7.381E+1	1.862E+2	5.400E-1
5.716E+7	7.237E+1	1.717E+2	5.460E-1
6.268E+7	7.083E+1	1.577E+2	5.500E-1
6.873E+7	6.989E+1	1.457E+2	5.570E-1
7.536E+7	6.842E+1	1.343E+2	5.632E-1
8.263E+7	6.715E+1	1.240E+2	5.699E-1
9.060E+7	6.591E+1	1.145E+2	5.770E-1
9.934E+7	6.473E+1	1.057E+2	5.842E-1
1.089E+8	6.355E+1	9.766E+1	5.918E-1
1.194E+8	6.232E+1	9.032E+1	6.001E-1
1.310E+8	6.133E+1	8.356E+1	6.088E-1
1.436E+8	6.015E+1	7.735E+1	6.179E-1
1.574E+8	5.913E+1	7.158E+1	6.270E-1
1.726E+8	5.805E+1	6.623E+1	6.361E-1
1.893E+8	5.706E+1	6.135E+1	6.460E-1
2.075E+8	5.617E+1	5.684E+1	6.563E-1
2.276E+8	5.530E+1	5.266E+1	6.667E-1
2.495E+8	5.451E+1	4.880E+1	6.774E-1
2.736E+8	5.372E+1	4.527E+1	6.891E-1
3.000E+8	5.299E+1	4.199E+1	7.008E-1
3.289E+8	5.231E+1	3.899E+1	7.135E-1
3.607E+8	5.169E+1	3.626E+1	7.275E-1
3.955E+8	5.105E+1	3.368E+1	7.410E-1
4.336E+8	5.053E+1	3.131E+1	7.554E-1
4.755E+8	5.004E+1	2.922E+1	7.729E-1
5.213E+8	4.948E+1	2.727E+1	7.908E-1
5.716E+8	4.904E+1	2.550E+1	8.108E-1
6.268E+8	4.861E+1	2.390E+1	8.332E-1
6.873E+8	4.819E+1	2.245E+1	8.585E-1
7.536E+8	4.773E+1	2.120E+1	8.886E-1
8.263E+8	4.722E+1	2.001E+1	9.199E-1
9.060E+8	4.668E+1	1.892E+1	9.538E-1
9.934E+8	4.608E+1	1.772E+1	9.795E-1
1.025E+9	4.726E+1	1.644E+1	9.376E-1
1.078E+9	4.695E+1	1.610E+1	9.656E-1
1.133E+9	4.693E+1	1.574E+1	9.925E-1
1.192E+9	4.668E+1	1.534E+1	1.017E+0
1.254E+9	4.649E+1	1.508E+1	1.052E+0
1.318E+9	4.642E+1	1.479E+1	1.085E+0
1.386E+9	4.624E+1	1.452E+1	1.120E+0
1.458E+9	4.593E+1	1.423E+1	1.154E+0
1.533E+9	4.582E+1	1.416E+1	1.208E+0

Frequency (Hz)	Bovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.612E+9	4.564E+1	1.386E+1	1.243E+0
1.696E+9	4.544E+1	1.383E+1	1.305E+0
1.783E+9	4.526E+1	1.367E+1	1.356E+0
1.875E+9	4.508E+1	1.356E+1	1.414E+0
1.972E+9	4.481E+1	1.347E+1	1.478E+0
2.074E+9	4.469E+1	1.342E+1	1.548E+0
2.181E+9	4.451E+1	1.336E+1	1.621E+0
2.294E+9	4.428E+1	1.341E+1	1.712E+0
2.412E+9	4.400E+1	1.345E+1	1.806E+0
2.537E+9	4.383E+1	1.334E+1	1.883E+0
2.668E+9	4.354E+1	1.351E+1	2.005E+0
2.806E+9	4.328E+1	1.352E+1	2.110E+0
2.951E+9	4.300E+1	1.361E+1	2.234E+0
3.103E+9	4.273E+1	1.364E+1	2.355E+0
3.263E+9	4.240E+1	1.378E+1	2.502E+0
3.432E+9	4.220E+1	1.390E+1	2.653E+0
3.609E+9	4.191E+1	1.404E+1	2.819E+0
3.796E+9	4.158E+1	1.420E+1	2.999E+0
3.992E+9	4.124E+1	1.441E+1	3.201E+0
4.198E+9	4.095E+1	1.461E+1	3.413E+0
4.415E+9	4.063E+1	1.484E+1	3.645E+0
4.643E+9	4.022E+1	1.519E+1	3.923E+0
4.883E+9	3.972E+1	1.542E+1	4.190E+0
5.135E+9	3.927E+1	1.572E+1	4.492E+0
5.400E+9	3.872E+1	1.594E+1	4.789E+0
5.679E+9	3.808E+1	1.620E+1	5.120E+0
5.972E+9	3.750E+1	1.644E+1	5.463E+0
6.281E+9	3.702E+1	1.662E+1	5.807E+0
6.605E+9	3.637E+1	1.677E+1	6.162E+0
6.946E+9	3.578E+1	1.705E+1	6.588E+0
7.305E+9	3.520E+1	1.724E+1	7.007E+0
7.682E+9	3.450E+1	1.744E+1	7.455E+0
8.079E+9	3.381E+1	1.772E+1	7.965E+0
8.496E+9	3.307E+1	1.785E+1	8.437E+0
8.935E+9	3.237E+1	1.798E+1	8.936E+0
9.397E+9	3.166E+1	1.811E+1	9.467E+0
9.882E+9	3.085E+1	1.819E+1	1.000E+1
1.039E+10	3.005E+1	1.826E+1	1.056E+1
1.093E+10	2.928E+1	1.826E+1	1.110E+1
1.149E+10	2.848E+1	1.821E+1	1.164E+1
1.209E+10	2.781E+1	1.821E+1	1.224E+1
1.271E+10	2.699E+1	1.808E+1	1.278E+1
1.337E+10	2.614E+1	1.801E+1	1.339E+1
1.406E+10	2.543E+1	1.768E+1	1.383E+1
1.478E+10	2.456E+1	1.761E+1	1.449E+1
1.555E+10	2.404E+1	1.749E+1	1.513E+1
1.635E+10	2.339E+1	1.732E+1	1.576E+1
1.720E+10	2.270E+1	1.719E+1	1.644E+1
1.808E+10	2.197E+1	1.707E+1	1.717E+1
1.902E+10	2.147E+1	1.683E+1	1.781E+1
2.000E+10	2.089E+1	1.665E+1	1.852E+1

Testis

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.089E+6	3.160E+3	1.033E+4	6.267E-1
1.194E+6	1.973E+3	9.027E+3	5.997E-1
1.310E+6	2.047E+3	8.487E+3	6.187E-1
1.436E+6	1.583E+3	8.393E+3	6.700E-1
1.574E+6	1.863E+3	7.413E+3	6.493E-1
1.726E+6	1.413E+3	7.100E+3	6.820E-1
2.075E+6	1.093E+3	6.237E+3	7.200E-1
2.276E+6	1.073E+3	5.153E+3	6.520E-1
2.495E+6	9.973E+2	4.560E+3	6.327E-1
2.736E+6	8.807E+2	4.430E+3	6.747E-1
3.000E+6	8.503E+2	4.060E+3	6.777E-1
3.289E+6	9.777E+2	3.940E+3	7.210E-1
3.607E+6	6.337E+2	3.467E+3	6.950E-1
3.955E+6	6.373E+2	3.250E+3	7.150E-1
4.336E+6	5.837E+2	2.987E+3	7.200E-1
4.755E+6	5.690E+2	2.787E+3	7.370E-1
5.213E+6	5.117E+2	2.567E+3	7.440E-1
5.716E+6	4.383E+2	2.327E+3	7.390E-1
6.268E+6	4.080E+2	2.197E+3	7.660E-1
6.873E+6	3.563E+2	1.987E+3	7.590E-1
7.536E+6	3.350E+2	1.843E+3	7.713E-1
8.263E+6	3.137E+2	1.713E+3	7.890E-1
9.060E+6	2.787E+2	1.573E+3	7.913E-1
9.934E+6	2.810E+2	1.427E+3	7.893E-1
1.089E+7	2.507E+2	1.313E+3	7.940E-1
1.194E+7	2.240E+2	1.223E+3	8.137E-1
1.310E+7	2.143E+2	1.123E+3	8.213E-1
1.436E+7	2.087E+2	1.033E+3	8.223E-1
1.574E+7	1.957E+2	9.370E+2	8.207E-1
1.726E+7	1.743E+2	8.717E+2	8.373E-1
1.893E+7	1.657E+2	8.023E+2	8.453E-1
2.075E+7	1.537E+2	7.330E+2	8.463E-1
2.276E+7	1.443E+2	6.730E+2	8.517E-1
2.495E+7	1.367E+2	6.190E+2	8.597E-1
2.736E+7	1.323E+2	5.690E+2	8.667E-1
3.000E+7	1.233E+2	5.217E+2	8.707E-1
3.289E+7	1.193E+2	4.797E+2	8.777E-1
3.607E+7	1.113E+2	4.393E+2	8.817E-1
3.955E+7	1.083E+2	4.043E+2	8.890E-1
4.336E+7	1.043E+2	3.723E+2	8.987E-1
4.755E+7	9.927E+1	3.410E+2	9.017E-1
5.213E+7	9.577E+1	3.130E+2	9.070E-1
5.716E+7	9.307E+1	2.870E+2	9.120E-1
6.268E+7	9.060E+1	2.630E+2	9.163E-1
6.873E+7	8.790E+1	2.417E+2	9.230E-1
7.536E+7	8.580E+1	2.217E+2	9.297E-1
8.263E+7	8.353E+1	2.037E+2	9.340E-1
9.060E+7	8.140E+1	1.867E+2	9.400E-1
9.934E+7	7.943E+1	1.717E+2	9.473E-1
1.089E+8	7.807E+1	1.573E+2	9.533E-1
1.194E+8	7.603E+1	1.447E+2	9.610E-1
1.310E+8	7.483E+1	1.333E+2	9.693E-1
1.436E+8	7.350E+1	1.223E+2	9.777E-1
1.574E+8	7.243E+1	1.123E+2	9.867E-1
1.726E+8	7.177E+1	1.033E+2	9.933E-1
1.893E+8	7.097E+1	9.510E+1	1.001E+0
2.075E+8	6.970E+1	8.743E+1	1.013E+0
2.276E+8	6.863E+1	8.040E+1	1.017E+0
2.495E+8	6.783E+1	7.407E+1	1.027E+0
2.736E+8	6.733E+1	6.830E+1	1.043E+0

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
3.000E+8	6.670E+1	6.293E+1	1.053E+0
3.060E+8	6.663E+1	6.393E+1	1.090E+0
3.218E+8	6.683E+1	6.097E+1	1.090E+0
3.384E+8	6.643E+1	5.873E+1	1.107E+0
3.559E+8	6.607E+1	5.593E+1	1.107E+0
3.743E+8	6.637E+1	5.333E+1	1.110E+0
3.936E+8	6.607E+1	5.120E+1	1.120E+0
4.140E+8	6.513E+1	4.867E+1	1.120E+0
4.354E+8	6.520E+1	4.693E+1	1.137E+0
4.578E+8	6.517E+1	4.517E+1	1.150E+0
4.815E+8	6.513E+1	4.263E+1	1.140E+0
5.064E+8	6.473E+1	4.100E+1	1.153E+0
5.325E+8	6.467E+1	3.933E+1	1.167E+0
5.600E+8	6.433E+1	3.790E+1	1.180E+0
5.889E+8	6.403E+1	3.647E+1	1.197E+0
6.194E+8	6.407E+1	3.503E+1	1.207E+0
6.513E+8	6.377E+1	3.377E+1	1.223E+0
6.850E+8	6.353E+1	3.257E+1	1.240E+0
7.204E+8	6.343E+1	3.147E+1	1.260E+0
7.576E+8	6.320E+1	3.013E+1	1.273E+0
7.967E+8	6.300E+1	2.927E+1	1.297E+0
8.378E+8	6.280E+1	2.837E+1	1.323E+0
8.811E+8	6.270E+1	2.717E+1	1.330E+0
9.266E+8	6.247E+1	2.633E+1	1.357E+0
9.745E+8	6.240E+1	2.553E+1	1.383E+0
1.025E+9	6.217E+1	2.460E+1	1.403E+0
1.078E+9	6.200E+1	2.407E+1	1.443E+0
1.133E+9	6.183E+1	2.327E+1	1.467E+0
1.192E+9	6.173E+1	2.287E+1	1.517E+0
1.254E+9	6.157E+1	2.207E+1	1.540E+0
1.318E+9	6.137E+1	2.163E+1	1.587E+0
1.386E+9	6.133E+1	2.107E+1	1.627E+0
1.458E+9	6.110E+1	2.067E+1	1.677E+0
1.533E+9	6.083E+1	2.007E+1	1.710E+0
1.612E+9	6.077E+1	1.970E+1	1.770E+0
1.696E+9	6.063E+1	1.953E+1	1.843E+0
1.783E+9	6.023E+1	1.917E+1	1.903E+0
1.875E+9	6.017E+1	1.883E+1	1.963E+0
1.972E+9	5.987E+1	1.863E+1	2.043E+0
2.074E+9	5.973E+1	1.847E+1	2.130E+0
2.181E+9	5.957E+1	1.833E+1	2.227E+0
2.294E+9	5.943E+1	1.810E+1	2.310E+0
2.412E+9	5.920E+1	1.807E+1	2.427E+0
2.537E+9	5.890E+1	1.803E+1	2.543E+0
2.668E+9	5.867E+1	1.807E+1	2.687E+0
2.806E+9	5.837E+1	1.800E+1	2.810E+0
2.951E+9	5.827E+1	1.807E+1	2.963E+0
3.103E+9	5.790E+1	1.817E+1	3.137E+0
3.263E+9	5.763E+1	1.827E+1	3.320E+0
3.432E+9	5.727E+1	1.847E+1	3.523E+0
3.609E+9	5.697E+1	1.857E+1	3.723E+0
3.796E+9	5.667E+1	1.877E+1	3.963E+0
3.992E+9	5.643E+1	1.893E+1	4.207E+0
4.198E+9	5.600E+1	1.913E+1	4.473E+0
4.415E+9	5.557E+1	1.950E+1	4.793E+0
4.643E+9	5.520E+1	1.983E+1	5.123E+0
4.883E+9	5.480E+1	2.023E+1	5.487E+0
5.135E+9	5.423E+1	2.063E+1	5.893E+0
5.400E+9	5.353E+1	2.107E+1	6.323E+0
5.679E+9	5.310E+1	2.143E+1	6.770E+0

Testis

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
5.972E+9	5.243E+1	2.190E+1	7.273E+0
6.281E+9	5.153E+1	2.227E+1	7.780E+0
6.605E+9	5.093E+1	2.260E+1	8.303E+0
6.946E+9	5.023E+1	2.287E+1	8.837E+0
7.305E+9	4.943E+1	2.333E+1	9.487E+0
7.682E+9	4.887E+1	2.387E+1	1.017E+1
8.079E+9	4.800E+1	2.413E+1	1.083E+1
8.496E+9	4.717E+1	2.447E+1	1.157E+1
8.935E+9	4.633E+1	2.493E+1	1.240E+1
9.397E+9	4.503E+1	2.497E+1	1.303E+1
9.882E+9	4.430E+1	2.557E+1	1.403E+1
1.039E+10	4.320E+1	2.563E+1	1.483E+1
1.093E+10	4.250E+1	2.603E+1	1.580E+1
1.149E+10	4.137E+1	2.587E+1	1.657E+1
1.209E+10	4.067E+1	2.617E+1	1.760E+1
1.271E+10	3.910E+1	2.613E+1	1.847E+1
1.337E+10	3.870E+1	2.677E+1	1.993E+1
1.406E+10	3.810E+1	2.693E+1	2.110E+1
1.478E+10	3.677E+1	2.660E+1	2.187E+1
1.555E+10	3.563E+1	2.747E+1	2.373E+1
1.635E+10	3.453E+1	2.697E+1	2.457E+1
1.720E+10	3.400E+1	2.710E+1	2.597E+1
1.808E+10	3.290E+1	2.753E+1	2.773E+1
1.902E+10	3.157E+1	2.780E+1	2.940E+1
2.000E+10	3.030E+1	2.840E+1	3.163E+1

Thyroid

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.089E+6	2.554E+3	7.940E+3	4.811E-1
1.194E+6	1.593E+3	6.946E+3	4.615E-1
1.310E+6	1.629E+3	6.538E+3	4.763E-1
1.436E+6	1.256E+3	6.462E+3	5.162E-1
1.574E+6	1.456E+3	5.714E+3	5.005E-1
1.726E+6	1.083E+3	5.465E+3	5.249E-1
1.893E+6	6.373E+2	4.709E+3	4.959E-1
2.075E+6	8.119E+2	4.794E+3	5.535E-1
2.276E+6	7.918E+2	3.963E+3	5.017E-1
2.495E+6	7.295E+2	3.502E+3	4.862E-1
2.736E+6	6.290E+2	3.392E+3	5.163E-1
3.000E+6	6.054E+2	3.104E+3	5.181E-1
3.289E+6	6.966E+2	3.014E+3	5.515E-1
3.607E+6	4.378E+2	2.637E+3	5.291E-1
3.955E+6	4.391E+2	2.471E+3	5.436E-1
4.336E+6	4.003E+2	2.261E+3	5.454E-1
4.755E+6	3.902E+2	2.109E+3	5.578E-1
5.213E+6	3.477E+2	1.934E+3	5.610E-1
5.716E+6	2.959E+2	1.748E+3	5.560E-1
6.268E+6	2.762E+2	1.648E+3	5.745E-1
6.873E+6	2.425E+2	1.483E+3	5.672E-1
7.536E+6	2.291E+2	1.372E+3	5.752E-1
8.263E+6	2.160E+2	1.277E+3	5.870E-1
9.060E+6	1.939E+2	1.166E+3	5.877E-1
9.934E+6	1.964E+2	1.061E+3	5.863E-1
1.089E+7	1.767E+2	9.711E+2	5.885E-1
1.194E+7	1.572E+2	9.040E+2	6.007E-1
1.310E+7	1.526E+2	8.311E+2	6.055E-1
1.436E+7	1.508E+2	7.574E+2	6.050E-1
1.574E+7	1.437E+2	6.887E+2	6.032E-1
1.726E+7	1.285E+2	6.400E+2	6.147E-1
1.893E+7	1.244E+2	5.878E+2	6.190E-1
2.075E+7	1.168E+2	5.364E+2	6.193E-1
2.276E+7	1.107E+2	4.919E+2	6.228E-1
2.495E+7	1.062E+2	4.526E+2	6.282E-1
2.736E+7	1.037E+2	4.155E+2	6.324E-1
3.000E+7	9.824E+1	3.800E+2	6.342E-1
3.289E+7	9.573E+1	3.493E+2	6.391E-1
3.607E+7	9.045E+1	3.197E+2	6.416E-1
3.955E+7	8.915E+1	2.937E+2	6.461E-1
4.336E+7	8.591E+1	2.706E+2	6.528E-1
4.755E+7	8.298E+1	2.472E+2	6.540E-1
5.213E+7	8.069E+1	2.271E+2	6.587E-1
5.716E+7	7.896E+1	2.081E+2	6.618E-1
6.268E+7	7.740E+1	1.907E+2	6.651E-1
6.873E+7	7.563E+1	1.751E+2	6.695E-1
7.536E+7	7.429E+1	1.608E+2	6.742E-1
8.263E+7	7.283E+1	1.474E+2	6.777E-1
9.060E+7	7.144E+1	1.353E+2	6.821E-1
9.934E+7	7.028E+1	1.242E+2	6.866E-1
1.089E+8	6.943E+1	1.141E+2	6.916E-1
1.194E+8	6.813E+1	1.049E+2	6.969E-1
1.310E+8	6.741E+1	9.633E+1	7.018E-1
1.436E+8	6.648E+1	8.875E+1	7.090E-1
1.574E+8	6.573E+1	8.165E+1	7.152E-1
1.726E+8	6.517E+1	7.502E+1	7.205E-1
1.893E+8	6.466E+1	6.913E+1	7.280E-1
2.075E+8	6.384E+1	6.367E+1	7.352E-1
2.276E+8	6.310E+1	5.865E+1	7.426E-1
2.495E+8	6.255E+1	5.407E+1	7.507E-1

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
2.736E+8	6.215E+1	4.990E+1	7.596E-1
3.000E+8	6.163E+1	4.610E+1	7.695E-1
3.289E+8	6.114E+1	4.256E+1	7.788E-1
3.607E+8	6.070E+1	3.948E+1	7.921E-1
3.955E+8	6.035E+1	3.656E+1	8.044E-1
4.336E+8	6.002E+1	3.392E+1	8.183E-1
4.755E+8	5.958E+1	3.154E+1	8.342E-1
5.213E+8	5.935E+1	2.943E+1	8.537E-1
5.716E+8	5.895E+1	2.747E+1	8.736E-1
6.268E+8	5.865E+1	2.574E+1	8.976E-1
6.873E+8	5.841E+1	2.395E+1	9.156E-1
7.536E+8	5.819E+1	2.292E+1	9.609E-1
8.263E+8	5.772E+1	2.181E+1	1.003E+0
9.060E+8	5.726E+1	2.072E+1	1.045E+0
9.934E+8	5.666E+1	1.961E+1	1.084E+0
1.025E+9	5.938E+1	1.954E+1	1.114E+0
1.078E+9	5.925E+1	1.914E+1	1.148E+0
1.133E+9	5.901E+1	1.871E+1	1.180E+0
1.192E+9	5.880E+1	1.839E+1	1.220E+0
1.254E+9	5.869E+1	1.786E+1	1.245E+0
1.318E+9	5.855E+1	1.758E+1	1.289E+0
1.386E+9	5.843E+1	1.711E+1	1.319E+0
1.458E+9	5.819E+1	1.691E+1	1.371E+0
1.533E+9	5.801E+1	1.652E+1	1.409E+0
1.612E+9	5.786E+1	1.625E+1	1.458E+0
1.696E+9	5.777E+1	1.617E+1	1.526E+0
1.783E+9	5.740E+1	1.601E+1	1.589E+0
1.875E+9	5.732E+1	1.579E+1	1.647E+0
1.972E+9	5.714E+1	1.570E+1	1.723E+0
2.074E+9	5.695E+1	1.563E+1	1.804E+0
2.181E+9	5.677E+1	1.565E+1	1.899E+0
2.294E+9	5.658E+1	1.550E+1	1.978E+0
2.412E+9	5.638E+1	1.555E+1	2.087E+0
2.537E+9	5.611E+1	1.554E+1	2.194E+0
2.668E+9	5.588E+1	1.572E+1	2.334E+0
2.806E+9	5.563E+1	1.570E+1	2.450E+0
2.951E+9	5.548E+1	1.579E+1	2.592E+0
3.103E+9	5.522E+1	1.599E+1	2.761E+0
3.263E+9	5.499E+1	1.622E+1	2.944E+0
3.432E+9	5.465E+1	1.640E+1	3.131E+0
3.609E+9	5.435E+1	1.656E+1	3.325E+0
3.796E+9	5.399E+1	1.680E+1	3.548E+0
3.992E+9	5.381E+1	1.703E+1	3.781E+0
4.198E+9	5.345E+1	1.732E+1	4.045E+0
4.415E+9	5.304E+1	1.780E+1	4.372E+0
4.643E+9	5.259E+1	1.821E+1	4.704E+0
4.883E+9	5.232E+1	1.864E+1	5.063E+0
5.135E+9	5.168E+1	1.913E+1	5.464E+0
5.400E+9	5.104E+1	1.955E+1	5.873E+0
5.679E+9	5.040E+1	1.990E+1	6.286E+0
5.972E+9	4.976E+1	2.037E+1	6.767E+0
6.281E+9	4.900E+1	2.082E+1	7.276E+0
6.605E+9	4.832E+1	2.110E+1	7.751E+0
6.946E+9	4.760E+1	2.146E+1	8.295E+0
7.305E+9	4.685E+1	2.193E+1	8.913E+0
7.682E+9	4.613E+1	2.236E+1	9.558E+0
8.079E+9	4.518E+1	2.274E+1	1.022E+1
8.496E+9	4.450E+1	2.313E+1	1.093E+1
8.935E+9	4.351E+1	2.338E+1	1.162E+1
9.397E+9	4.238E+1	2.360E+1	1.234E+1

Thyroid

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
9.882E+9	4.147E+1	2.404E+1	1.321E+1
1.039E+10	4.040E+1	2.413E+1	1.395E+1
1.093E+10	3.949E+1	2.434E+1	1.480E+1
1.149E+10	3.837E+1	2.426E+1	1.551E+1
1.209E+10	3.755E+1	2.450E+1	1.647E+1
1.271E+10	3.624E+1	2.423E+1	1.714E+1
1.337E+10	3.561E+1	2.460E+1	1.830E+1
1.406E+10	3.483E+1	2.461E+1	1.925E+1
1.478E+10	3.348E+1	2.448E+1	2.014E+1
1.555E+10	3.250E+1	2.469E+1	2.136E+1
1.635E+10	3.150E+1	2.453E+1	2.231E+1
1.720E+10	3.075E+1	2.444E+1	2.338E+1
1.808E+10	2.979E+1	2.456E+1	2.471E+1
1.902E+10	2.865E+1	2.441E+1	2.583E+1
2.000E+10	2.758E+1	2.456E+1	2.733E+1

Tongue

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
2.075E+6	8.584E+2	3.487E+3	4.026E-1
2.276E+6	9.524E+2	3.412E+3	4.320E-1
2.495E+6	7.466E+2	3.225E+3	4.477E-1
2.736E+6	6.377E+2	2.811E+3	4.279E-1
3.000E+6	6.360E+2	2.788E+3	4.653E-1
3.289E+6	6.034E+2	2.382E+3	4.359E-1
3.607E+6	5.287E+2	2.396E+3	4.809E-1
3.955E+6	4.351E+2	2.098E+3	4.617E-1
4.336E+6	3.563E+2	1.981E+3	4.779E-1
4.755E+6	3.457E+2	1.778E+3	4.704E-1
5.213E+6	3.130E+2	1.622E+3	4.703E-1
5.716E+6	3.065E+2	1.553E+3	4.938E-1
6.268E+6	2.869E+2	1.407E+3	4.907E-1
6.873E+6	2.710E+2	1.306E+3	4.993E-1
7.536E+6	2.344E+2	1.177E+3	4.932E-1
8.263E+6	2.036E+2	1.076E+3	4.946E-1
9.060E+6	1.911E+2	9.872E+2	4.976E-1
9.934E+6	1.778E+2	9.305E+2	5.142E-1
1.089E+7	1.667E+2	8.510E+2	5.157E-1
1.194E+7	1.577E+2	7.722E+2	5.131E-1
1.310E+7	1.422E+2	7.142E+2	5.203E-1
1.436E+7	1.312E+2	6.563E+2	5.242E-1
1.574E+7	1.295E+2	6.038E+2	5.288E-1
1.726E+7	1.167E+2	5.553E+2	5.333E-1
1.893E+7	1.110E+2	5.085E+2	5.355E-1
2.075E+7	1.035E+2	4.683E+2	5.408E-1
2.276E+7	9.669E+1	4.306E+2	5.451E-1
2.495E+7	9.328E+1	3.933E+2	5.460E-1
2.736E+7	8.961E+1	3.646E+2	5.550E-1
3.000E+7	8.608E+1	3.333E+2	5.562E-1
3.289E+7	8.220E+1	3.078E+2	5.633E-1
3.607E+7	8.000E+1	2.803E+2	5.624E-1
3.955E+7	7.900E+1	2.585E+2	5.688E-1
4.336E+7	7.800E+1	2.387E+2	5.759E-1
4.755E+7	7.700E+1	2.180E+2	5.765E-1
5.213E+7	7.600E+1	2.005E+2	5.816E-1
5.716E+7	7.500E+1	1.839E+2	5.849E-1
6.268E+7	7.400E+1	1.689E+2	5.888E-1
6.873E+7	7.300E+1	1.550E+2	5.926E-1
7.536E+7	7.200E+1	1.427E+2	5.982E-1
8.263E+7	7.100E+1	1.311E+2	6.026E-1
9.060E+7	7.000E+1	1.204E+2	6.066E-1
9.934E+7	6.900E+1	1.105E+2	6.200E-1
1.089E+8	6.800E+1	1.017E+2	6.400E-1
1.194E+8	6.700E+1	9.343E+1	6.600E-1
1.310E+8	6.600E+1	8.592E+1	6.800E-1
1.436E+8	6.550E+1	7.913E+1	7.000E-1
1.574E+8	6.500E+1	7.265E+1	7.200E-1
1.726E+8	6.450E+1	6.683E+1	7.400E-1
1.893E+8	6.400E+1	6.169E+1	7.600E-1
2.075E+8	6.350E+1	5.664E+1	7.800E-1
2.151E+8	6.300E+1	6.885E+1	8.000E-1
2.262E+8	6.209E+1	6.585E+1	8.100E-1
2.379E+8	6.161E+1	6.350E+1	8.200E-1
2.502E+8	6.126E+1	6.011E+1	8.300E-1
2.631E+8	6.080E+1	5.775E+1	8.350E-1
2.767E+8	6.089E+1	5.504E+1	8.400E-1
2.910E+8	6.064E+1	5.282E+1	8.450E-1
3.060E+8	6.069E+1	4.977E+1	8.500E-1
3.218E+8	6.010E+1	4.799E+1	8.550E-1

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
3.384E+8	5.964E+1	4.594E+1	8.600E-1
3.559E+8	5.935E+1	4.386E+1	8.700E-1
3.743E+8	5.948E+1	4.265E+1	8.750E-1
3.936E+8	5.913E+1	4.054E+1	8.800E-1
4.140E+8	5.866E+1	3.861E+1	8.900E-1
4.354E+8	5.879E+1	3.713E+1	8.993E-1
4.578E+8	5.852E+1	3.574E+1	9.103E-1
4.815E+8	5.824E+1	3.445E+1	9.229E-1
5.064E+8	5.821E+1	3.264E+1	9.195E-1
5.325E+8	5.815E+1	3.134E+1	9.284E-1
5.600E+8	5.747E+1	3.028E+1	9.433E-1
5.889E+8	5.738E+1	2.923E+1	9.576E-1
6.194E+8	5.727E+1	2.813E+1	9.692E-1
6.513E+8	5.726E+1	2.687E+1	9.736E-1
6.850E+8	5.714E+1	2.604E+1	9.922E-1
7.204E+8	5.671E+1	2.521E+1	1.010E+0
7.576E+8	5.663E+1	2.423E+1	1.021E+0
7.967E+8	5.673E+1	2.343E+1	1.039E+0
8.378E+8	5.644E+1	2.277E+1	1.061E+0
8.811E+8	5.639E+1	2.201E+1	1.079E+0
9.266E+8	5.613E+1	2.130E+1	1.098E+0
9.745E+8	5.594E+1	2.069E+1	1.122E+0
1.025E+9	5.592E+1	2.022E+1	1.153E+0
1.078E+9	5.573E+1	1.955E+1	1.172E+0
1.133E+9	5.550E+1	1.900E+1	1.198E+0
1.192E+9	5.547E+1	1.856E+1	1.231E+0
1.254E+9	5.529E+1	1.811E+1	1.263E+0
1.318E+9	5.517E+1	1.779E+1	1.305E+0
1.386E+9	5.490E+1	1.747E+1	1.347E+0
1.458E+9	5.474E+1	1.702E+1	1.381E+0
1.533E+9	5.463E+1	1.668E+1	1.423E+0
1.612E+9	5.448E+1	1.641E+1	1.472E+0
1.696E+9	5.428E+1	1.623E+1	1.531E+0
1.783E+9	5.409E+1	1.601E+1	1.588E+0
1.875E+9	5.398E+1	1.578E+1	1.647E+0
1.972E+9	5.387E+1	1.557E+1	1.709E+0
2.074E+9	5.363E+1	1.548E+1	1.786E+0
2.181E+9	5.347E+1	1.536E+1	1.864E+0
2.294E+9	5.328E+1	1.543E+1	1.970E+0
2.412E+9	5.312E+1	1.535E+1	2.060E+0
2.537E+9	5.290E+1	1.536E+1	2.168E+0
2.668E+9	5.272E+1	1.542E+1	2.288E+0
2.806E+9	5.249E+1	1.552E+1	2.423E+0
2.951E+9	5.242E+1	1.554E+1	2.551E+0
3.103E+9	5.216E+1	1.577E+1	2.722E+0
3.263E+9	5.188E+1	1.596E+1	2.898E+0
3.432E+9	5.151E+1	1.613E+1	3.081E+0
3.609E+9	5.123E+1	1.632E+1	3.277E+0
3.796E+9	5.091E+1	1.661E+1	3.508E+0
3.992E+9	5.048E+1	1.684E+1	3.741E+0
4.198E+9	5.018E+1	1.717E+1	4.010E+0
4.415E+9	4.970E+1	1.742E+1	4.279E+0
4.643E+9	4.937E+1	1.782E+1	4.601E+0
4.883E+9	4.894E+1	1.823E+1	4.953E+0
5.135E+9	4.839E+1	1.855E+1	5.299E+0
5.400E+9	4.778E+1	1.890E+1	5.678E+0
5.679E+9	4.725E+1	1.930E+1	6.097E+0
5.972E+9	4.659E+1	1.949E+1	6.476E+0
6.281E+9	4.600E+1	1.984E+1	6.932E+0
6.605E+9	4.534E+1	2.020E+1	7.422E+0

Tongue

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
6.946E+9	4.466E+1	2.052E+1	7.929E+0
7.305E+9	4.409E+1	2.096E+1	8.519E+0
7.682E+9	4.321E+1	2.137E+1	9.135E+0
8.079E+9	4.251E+1	2.176E+1	9.780E+0
8.496E+9	4.167E+1	2.211E+1	1.045E+1
8.935E+9	4.080E+1	2.245E+1	1.116E+1
9.397E+9	3.977E+1	2.276E+1	1.190E+1
9.882E+9	3.877E+1	2.308E+1	1.269E+1
1.039E+10	3.782E+1	2.323E+1	1.343E+1
1.093E+10	3.681E+1	2.332E+1	1.418E+1
1.149E+10	3.582E+1	2.363E+1	1.511E+1
1.209E+10	3.495E+1	2.357E+1	1.585E+1
1.271E+10	3.383E+1	2.368E+1	1.674E+1
1.337E+10	3.277E+1	2.370E+1	1.762E+1
1.406E+10	3.178E+1	2.371E+1	1.854E+1
1.478E+10	3.079E+1	2.360E+1	1.941E+1
1.555E+10	2.979E+1	2.351E+1	2.034E+1
1.635E+10	2.891E+1	2.350E+1	2.138E+1
1.720E+10	2.796E+1	2.349E+1	2.248E+1
1.808E+10	2.689E+1	2.340E+1	2.354E+1
1.902E+10	2.588E+1	2.319E+1	2.454E+1
2.000E+10	2.495E+1	2.306E+1	2.566E+1

Trachea

Frequency	Ovine @ 37°C Current study measurements		
(Hz)	ε′	ε″	σ (S/m)
3.000E+5	1.727E+3	1.970E+4	3.290E-1
3.289E+5	1.580E+3	1.807E+4	3.303E-1
3.607E+5	1.483E+3	1.653E+4	3.320E-1
3.955E+5	1.420E+3	1.520E+4	3.343E-1
4.336E+5	1.331E+3	1.390E+4	3.357E-1
4.755E+5	1.223E+3	1.280E+4	3.383E-1
5.213E+5	1.158E+3	1.173E+4	3.393E-1
5.716E+5	1.071E+3	1.073E+4	3.420E-1
6.268E+5	1.011E+3	9.837E+3	3.430E-1
6.873E+5	9.187E+2	9.023E+3	3.450E-1
7.536E+5	8.937E+2	8.267E+3	3.463E-1
8.263E+5	8.350E+2	7.617E+3	3.503E-1
9.060E+5	7.527E+2	7.000E+3	3.530E-1
9.934E+5	7.173E+2	6.423E+3	3.550E-1
1.089E+6	6.753E+2	5.880E+3	3.563E-1
1.194E+6	6.070E+2	5.403E+3	3.593E-1
1.310E+6	5.720E+2	4.957E+3	3.610E-1
1.436E+6	5.300E+2	4.553E+3	3.633E-1
1.574E+6	4.967E+2	4.173E+3	3.657E-1
1.726E+6	4.547E+2	3.843E+3	3.690E-1
1.893E+6	4.230E+2	3.527E+3	3.713E-1
2.075E+6	3.857E+2	3.243E+3	3.743E-1
2.276E+6	3.610E+2	2.973E+3	3.763E-1
2.495E+6	3.387E+2	2.723E+3	3.783E-1
2.736E+6	3.100E+2	2.497E+3	3.807E-1
3.000E+6	2.950E+2	2.290E+3	3.823E-1
3.289E+6	2.717E+2	2.110E+3	3.857E-1
3.607E+6	2.517E+2	1.937E+3	3.883E-1
3.955E+6	2.330E+2	1.773E+3	3.903E-1
4.336E+6	2.153E+2	1.627E+3	3.923E-1
4.755E+6	2.007E+2	1.497E+3	3.953E-1
5.213E+6	1.873E+2	1.367E+3	3.967E-1
5.716E+6	1.750E+2	1.253E+3	3.990E-1
6.268E+6	1.660E+2	1.153E+3	4.007E-1
6.873E+6	1.580E+2	1.050E+3	4.023E-1
7.536E+6	1.503E+2	9.657E+2	4.043E-1
8.263E+6	1.437E+2	8.843E+2	4.067E-1
9.060E+6	1.353E+2	8.147E+2	4.103E-1
9.934E+6	1.283E+2	7.480E+2	4.137E-1
1.089E+7	1.203E+2	6.863E+2	4.160E-1
1.194E+7	1.173E+2	6.277E+2	4.167E-1
1.310E+7	1.123E+2	5.760E+2	4.197E-1
1.436E+7	1.063E+2	5.273E+2	4.213E-1
1.574E+7	1.007E+2	4.827E+2	4.230E-1
1.726E+7	9.723E+1	4.433E+2	4.260E-1
1.893E+7	9.477E+1	4.067E+2	4.283E-1
2.075E+7	9.133E+1	3.740E+2	4.320E-1
2.276E+7	8.823E+1	3.430E+2	4.340E-1
2.495E+7	8.523E+1	3.140E+2	4.363E-1
2.736E+7	8.393E+1	2.887E+2	4.390E-1
3.000E+7	8.083E+1	2.660E+2	4.440E-1
3.289E+7	7.840E+1	2.443E+2	4.470E-1
3.607E+7	7.700E+1	2.250E+2	4.517E-1
3.955E+7	7.450E+1	2.070E+2	4.547E-1
4.336E+7	7.300E+1	1.900E+2	4.583E-1
4.755E+7	7.143E+1	1.757E+2	4.650E-1
5.213E+7	6.963E+1	1.623E+2	4.707E-1
5.716E+7	6.767E+1	1.497E+2	4.760E-1
6.268E+7	6.603E+1	1.390E+2	4.833E-1
6.873E+7	6.417E+1	1.287E+2	4.903E-1

Frequency	Ovine @ 37°C Current study measurements		
(Hz)	ε′	ε″	σ (S/m)
7.536E+7	6.260E+1	1.187E+2	4.973E-1
8.263E+7	6.100E+1	1.097E+2	5.033E-1
9.060E+7	5.933E+1	1.013E+2	5.117E-1
9.934E+7	5.800E+1	9.403E+1	5.193E-1
1.089E+8	5.667E+1	8.673E+1	5.257E-1
1.194E+8	5.537E+1	8.033E+1	5.337E-1
1.310E+8	5.420E+1	7.463E+1	5.437E-1
1.436E+8	5.277E+1	6.887E+1	5.503E-1
1.574E+8	5.160E+1	6.387E+1	5.593E-1
1.726E+8	5.047E+1	5.913E+1	5.680E-1
1.893E+8	4.937E+1	5.477E+1	5.770E-1
2.075E+8	4.850E+1	5.087E+1	5.870E-1
2.276E+8	4.767E+1	4.707E+1	5.960E-1
2.495E+8	4.690E+1	4.350E+1	6.037E-1
2.736E+8	4.607E+1	4.030E+1	6.133E-1
3.000E+8	4.530E+1	3.737E+1	6.237E-1
3.289E+8	4.470E+1	3.480E+1	6.367E-1
3.607E+8	4.413E+1	3.220E+1	6.463E-1
3.955E+8	4.357E+1	2.983E+1	6.570E-1
4.336E+8	4.293E+1	2.790E+1	6.730E-1
4.755E+8	4.270E+1	2.590E+1	6.853E-1
5.213E+8	4.213E+1	2.427E+1	7.033E-1
5.716E+8	4.163E+1	2.263E+1	7.193E-1
6.268E+8	4.120E+1	2.103E+1	7.327E-1
6.873E+8	4.083E+1	1.963E+1	7.513E-1
7.536E+8	4.063E+1	1.833E+1	7.680E-1
8.263E+8	4.027E+1	1.747E+1	8.030E-1
9.060E+8	4.033E+1	1.627E+1	8.197E-1
9.934E+8	3.967E+1	1.580E+1	8.740E-1
1.089E+9	3.963E+1	1.493E+1	9.043E-1
1.194E+9	3.910E+1	1.463E+1	9.707E-1
1.310E+9	3.830E+1	1.417E+1	1.037E+0
1.436E+9	3.760E+1	1.320E+1	1.050E+0
1.574E+9	3.727E+1	1.263E+1	1.107E+0
1.726E+9	3.723E+1	1.173E+1	1.127E+0
1.893E+9	3.687E+1	1.127E+1	1.187E+0
2.075E+9	3.683E+1	1.113E+1	1.287E+0
2.276E+9	3.650E+1	1.110E+1	1.400E+0
2.495E+9	3.580E+1	1.100E+1	1.527E+0
2.736E+9	3.527E+1	1.078E+1	1.643E+0
3.000E+9	3.460E+1	1.056E+1	1.767E+0
3.103E+9	5.257E+1	1.483E+1	2.560E+0
3.263E+9	5.230E+1	1.487E+1	2.697E+0
3.432E+9	5.217E+1	1.490E+1	2.847E+0
3.609E+9	5.180E+1	1.493E+1	3.007E+0
3.796E+9	5.170E+1	1.500E+1	3.173E+0
3.992E+9	5.147E+1	1.520E+1	3.377E+0
4.198E+9	5.123E+1	1.537E+1	3.597E+0
4.415E+9	5.087E+1	1.573E+1	3.860E+0
4.643E+9	5.053E+1	1.593E+1	4.117E+0
4.883E+9	5.017E+1	1.637E+1	4.443E+0
5.135E+9	4.973E+1	1.667E+1	4.763E+0
5.400E+9	4.927E+1	1.690E+1	5.077E+0
5.679E+9	4.867E+1	1.713E+1	5.410E+0
5.972E+9	4.810E+1	1.750E+1	5.810E+0
6.281E+9	4.763E+1	1.770E+1	6.180E+0
6.605E+9	4.700E+1	1.800E+1	6.623E+0
6.946E+9	4.657E+1	1.823E+1	7.047E+0
7.305E+9	4.597E+1	1.843E+1	7.477E+0
7.682E+9	4.537E+1	1.880E+1	8.037E+0

Trachea

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
8.079E+9	4.467E+1	1.893E+1	8.517E+0
8.496E+9	4.403E+1	1.923E+1	9.107E+0
8.935E+9	4.333E+1	1.967E+1	9.770E+0
9.397E+9	4.277E+1	2.007E+1	1.050E+1
9.882E+9	4.180E+1	2.020E+1	1.110E+1
1.039E+10	4.110E+1	2.063E+1	1.193E+1
1.093E+10	4.010E+1	2.070E+1	1.257E+1
1.149E+10	3.927E+1	2.090E+1	1.340E+1
1.209E+10	3.843E+1	2.093E+1	1.410E+1
1.271E+10	3.767E+1	2.107E+1	1.487E+1
1.337E+10	3.670E+1	2.080E+1	1.547E+1
1.406E+10	3.577E+1	2.120E+1	1.660E+1
1.478E+10	3.490E+1	2.143E+1	1.763E+1
1.555E+10	3.417E+1	2.113E+1	1.827E+1
1.635E+10	3.350E+1	2.150E+1	1.953E+1
1.720E+10	3.237E+1	2.147E+1	2.057E+1
1.808E+10	3.163E+1	2.140E+1	2.153E+1
1.902E+10	3.060E+1	2.140E+1	2.270E+1
2.000E+10	2.960E+1	2.107E+1	2.340E+1

Uterus

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	4.630E+7	3.653E+8	2.030E-1
1.122E+1	4.287E+7	3.230E+8	2.017E-1
1.259E+1	4.053E+7	2.863E+8	2.007E-1
1.350E+1	3.887E+7	2.547E+8	2.003E-1
1.585E+1	3.797E+7	2.273E+8	2.003E-1
1.778E+1	3.723E+7	2.033E+8	2.013E-1
1.995E+1	3.670E+7	1.823E+8	2.023E-1
2.239E+1	3.630E+7	1.640E+8	2.043E-1
2.512E+1	3.583E+7	1.473E+8	2.063E-1
2.818E+1	3.537E+7	1.337E+8	2.093E-1
3.162E+1	3.483E+7	1.213E+8	2.130E-1
3.548E+1	3.410E+7	1.103E+8	2.173E-1
3.981E+1	3.320E+7	1.005E+8	2.223E-1
4.467E+1	3.210E+7	9.177E+7	2.280E-1
5.012E+1	3.083E+7	8.407E+7	2.347E-1
5.623E+1	2.940E+7	7.723E+7	2.417E-1
6.310E+1	2.777E+7	7.110E+7	2.497E-1
7.079E+1	2.603E+7	6.550E+7	2.580E-1
7.943E+1	2.417E+7	6.043E+7	2.670E-1
8.913E+1	2.223E+7	5.583E+7	2.767E-1
1.000E+2	2.027E+7	5.150E+7	2.867E-1
1.122E+2	1.830E+7	4.753E+7	2.967E-1
1.259E+2	1.640E+7	4.387E+7	3.070E-1
1.413E+2	1.457E+7	4.040E+7	3.173E-1
1.585E+2	1.287E+7	3.717E+7	3.277E-1
1.778E+2	1.123E+7	3.410E+7	3.373E-1
1.995E+2	9.760E+6	3.127E+7	3.467E-1
2.239E+2	8.423E+6	2.857E+7	3.557E-1
2.512E+2	7.223E+6	2.603E+7	3.640E-1
2.818E+2	6.167E+6	2.370E+7	3.717E-1
3.162E+2	5.237E+6	2.153E+7	3.787E-1
3.548E+2	4.427E+6	1.953E+7	3.850E-1
3.981E+2	3.730E+6	1.767E+7	3.913E-1
4.467E+2	3.133E+6	1.597E+7	3.967E-1
5.012E+2	2.620E+6	1.440E+7	4.013E-1
5.623E+2	2.187E+6	1.297E+7	4.057E-1
6.310E+2	1.823E+6	1.167E+7	4.097E-1
7.079E+2	1.513E+6	1.050E+7	4.130E-1
7.943E+2	1.257E+6	9.420E+6	4.160E-1
8.913E+2	1.041E+6	8.453E+6	4.193E-1
1.000E+3	8.633E+5	7.580E+6	4.213E-1
1.122E+3	7.147E+5	6.793E+6	4.237E-1
1.259E+3	5.910E+5	6.080E+6	4.257E-1
1.413E+3	4.880E+5	5.443E+6	4.277E-1
1.585E+3	4.040E+5	4.867E+6	4.293E-1
1.778E+3	3.340E+5	4.353E+6	4.307E-1
1.995E+3	2.763E+5	3.893E+6	4.320E-1
2.239E+3	2.290E+5	3.480E+6	4.333E-1
2.512E+3	1.900E+5	3.107E+6	4.343E-1
2.818E+3	1.580E+5	2.773E+6	4.353E-1
3.162E+3	1.313E+5	2.480E+6	4.360E-1
3.548E+3	1.097E+5	2.210E+6	4.367E-1
3.981E+3	9.180E+4	1.977E+6	4.377E-1
4.467E+3	7.710E+4	1.763E+6	4.383E-1
5.012E+3	6.507E+4	1.573E+6	4.387E-1
5.623E+3	5.510E+4	1.403E+6	4.397E-1
6.310E+3	4.697E+4	1.250E+6	4.397E-1
7.079E+3	4.020E+4	1.117E+6	4.407E-1
7.943E+3	3.453E+4	9.980E+5	4.407E-1
8.913E+3	2.990E+4	8.903E+5	4.417E-1

Frequency (Hz)	Human @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	2.597E+4	7.947E+5	4.423E-1
1.122E+4	2.267E+4	7.090E+5	4.427E-1
1.259E+4	1.990E+4	6.330E+5	4.433E-1
1.413E+4	1.757E+4	5.647E+5	4.437E-1
1.585E+4	1.553E+4	5.040E+5	4.447E-1
1.778E+4	1.380E+4	4.497E+5	4.447E-1
1.995E+4	1.233E+4	4.013E+5	4.457E-1
2.239E+4	1.103E+4	3.583E+5	4.463E-1
2.512E+4	9.910E+3	3.197E+5	4.470E-1
2.818E+4	8.913E+3	2.857E+5	4.477E-1
3.162E+4	8.043E+3	2.550E+5	4.487E-1
3.548E+4	7.263E+3	2.277E+5	4.493E-1
3.981E+4	6.580E+3	2.033E+5	4.497E-1
4.467E+4	5.977E+3	1.813E+5	4.507E-1
5.012E+4	5.430E+3	1.620E+5	4.517E-1
5.623E+4	4.950E+3	1.443E+5	4.523E-1
6.310E+4	4.513E+3	1.290E+5	4.533E-1
7.079E+4	4.127E+3	1.153E+5	4.537E-1
7.943E+4	3.780E+3	1.030E+5	4.547E-1
8.913E+4	3.477E+3	9.190E+4	4.557E-1
1.000E+5	3.200E+3	8.203E+4	4.563E-1
1.122E+5	2.953E+3	7.327E+4	4.573E-1
1.259E+5	2.733E+3	6.540E+4	4.583E-1
1.413E+5	2.540E+3	5.843E+4	4.593E-1
1.585E+5	2.367E+3	5.217E+4	4.600E-1
1.778E+5	2.210E+3	4.657E+4	4.610E-1
1.995E+5	2.070E+3	4.163E+4	4.620E-1
2.239E+5	1.947E+3	3.717E+4	4.630E-1
2.512E+5	1.837E+3	3.323E+4	4.643E-1
2.818E+5	1.733E+3	2.967E+4	4.653E-1
3.162E+5	1.643E+3	2.650E+4	4.663E-1
3.548E+5	1.553E+3	2.370E+4	4.677E-1
3.981E+5	1.477E+3	2.117E+4	4.693E-1
4.336E+5	1.717E+3	1.920E+4	4.630E-1
4.755E+5	1.653E+3	1.763E+4	4.657E-1
5.213E+5	1.597E+3	1.617E+4	4.693E-1
5.716E+5	1.573E+3	1.473E+4	4.683E-1
6.268E+5	1.483E+3	1.350E+4	4.717E-1
6.873E+5	1.420E+3	1.237E+4	4.733E-1
7.536E+5	1.413E+3	1.133E+4	4.760E-1
8.263E+5	1.353E+3	1.040E+4	4.783E-1
9.060E+5	1.310E+3	9.557E+3	4.817E-1
9.934E+5	1.253E+3	8.780E+3	4.850E-1
1.089E+6	1.220E+3	8.063E+3	4.887E-1
1.194E+6	1.177E+3	7.400E+3	4.917E-1
1.310E+6	1.120E+3	6.793E+3	4.950E-1
1.436E+6	1.083E+3	6.240E+3	4.983E-1
1.574E+6	1.047E+3	5.750E+3	5.037E-1
1.726E+6	9.993E+2	5.290E+3	5.080E-1
1.893E+6	9.670E+2	4.880E+3	5.140E-1
2.075E+6	9.207E+2	4.493E+3	5.187E-1
2.276E+6	8.923E+2	4.150E+3	5.253E-1
2.495E+6	8.423E+2	3.833E+3	5.313E-1
2.736E+6	7.950E+2	3.537E+3	5.383E-1
3.000E+6	7.620E+2	3.270E+3	5.457E-1
3.289E+6	7.243E+2	3.027E+3	5.533E-1
3.607E+6	6.817E+2	2.790E+3	5.600E-1
3.955E+6	6.433E+2	2.573E+3	5.670E-1
4.336E+6	6.153E+2	2.390E+3	5.763E-1
4.755E+6	5.757E+2	2.213E+3	5.857E-1

Uterus

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
5.213E+6	5.430E+2	2.047E+3	5.933E-1
5.716E+6	5.067E+2	1.900E+3	6.040E-1
6.268E+6	4.847E+2	1.760E+3	6.120E-1
6.873E+6	4.503E+2	1.630E+3	6.240E-1
7.536E+6	4.227E+2	1.510E+3	6.327E-1
8.263E+6	3.963E+2	1.390E+3	6.407E-1
9.060E+6	3.700E+2	1.297E+3	6.547E-1
9.934E+6	3.500E+2	1.203E+3	6.647E-1
1.089E+7	3.263E+2	1.113E+3	6.743E-1
1.194E+7	3.053E+2	1.030E+3	6.870E-1
1.310E+7	2.863E+2	9.563E+2	6.963E-1
1.436E+7	2.697E+2	8.837E+2	7.060E-1
1.574E+7	2.497E+2	8.177E+2	7.160E-1
1.726E+7	2.353E+2	7.553E+2	7.257E-1
1.893E+7	2.207E+2	7.010E+2	7.383E-1
2.075E+7	2.083E+2	6.480E+2	7.480E-1
2.276E+7	1.940E+2	5.987E+2	7.580E-1
2.495E+7	1.840E+2	5.537E+2	7.690E-1
2.736E+7	1.723E+2	5.130E+2	7.813E-1
3.000E+7	1.630E+2	4.733E+2	7.897E-1
3.289E+7	1.547E+2	4.373E+2	8.007E-1
3.607E+7	1.473E+2	4.037E+2	8.103E-1
3.955E+7	1.403E+2	3.750E+2	8.247E-1
4.336E+7	1.333E+2	3.463E+2	8.360E-1
4.755E+7	1.270E+2	3.200E+2	8.463E-1
5.213E+7	1.197E+2	2.960E+2	8.580E-1
5.716E+7	1.143E+2	2.737E+2	8.697E-1
6.268E+7	1.100E+2	2.527E+2	8.810E-1
6.873E+7	1.050E+2	2.333E+2	8.927E-1
7.536E+7	1.007E+2	2.157E+2	9.037E-1
8.263E+7	9.627E+1	1.990E+2	9.147E-1
9.060E+7	9.277E+1	1.837E+2	9.260E-1
9.934E+7	8.957E+1	1.697E+2	9.380E-1
1.089E+8	8.633E+1	1.563E+2	9.493E-1
1.194E+8	8.383E+1	1.443E+2	9.590E-1
1.310E+8	8.153E+1	1.330E+2	9.700E-1
1.436E+8	7.913E+1	1.230E+2	9.803E-1
1.574E+8	7.710E+1	1.130E+2	9.923E-1
1.726E+8	7.537E+1	1.043E+2	1.002E+0
1.893E+8	7.377E+1	9.590E+1	1.007E+0
2.075E+8	7.217E+1	8.840E+1	1.017E+0
2.276E+8	7.087E+1	8.157E+1	1.033E+0
2.495E+8	6.970E+1	7.517E+1	1.047E+0
2.736E+8	6.860E+1	6.923E+1	1.057E+0
3.000E+8	6.773E+1	6.393E+1	1.067E+0
3.289E+8	6.677E+1	5.887E+1	1.077E+0
3.607E+8	6.603E+1	5.433E+1	1.090E+0
3.955E+8	6.537E+1	5.023E+1	1.107E+0
4.336E+8	6.473E+1	4.637E+1	1.117E+0
4.755E+8	6.420E+1	4.287E+1	1.137E+0
5.213E+8	6.373E+1	3.983E+1	1.157E+0
5.716E+8	6.313E+1	3.690E+1	1.173E+0
6.268E+8	6.283E+1	3.437E+1	1.200E+0
6.873E+8	6.227E+1	3.190E+1	1.220E+0
7.536E+8	6.203E+1	2.983E+1	1.253E+0
8.263E+8	6.160E+1	2.790E+1	1.283E+0
9.060E+8	6.147E+1	2.607E+1	1.313E+0
9.934E+8	6.113E+1	2.457E+1	1.360E+0
1.089E+9	6.123E+1	2.337E+1	1.417E+0
1.194E+9	6.120E+1	2.257E+1	1.500E+0

Frequency (Hz)	Human @ 37°C Current study measurements		
	ε′	ε″	σ (S/m)
1.310E+9	6.077E+1	2.203E+1	1.603E+0
1.436E+9	5.970E+1	2.140E+1	1.707E+0
1.574E+9	5.933E+1	2.017E+1	1.767E+0
1.726E+9	5.917E+1	1.957E+1	1.883E+0
1.893E+9	5.907E+1	1.947E+1	2.047E+0
2.075E+9	5.820E+1	1.943E+1	2.243E+0
2.806E+9	5.830E+1	1.900E+1	2.970E+0
2.951E+9	5.807E+1	1.890E+1	3.107E+0
3.103E+9	5.783E+1	1.893E+1	3.270E+0
3.263E+9	5.750E+1	1.880E+1	3.417E+0
3.432E+9	5.733E+1	1.887E+1	3.603E+0
3.609E+9	5.707E+1	1.920E+1	3.853E+0
3.796E+9	5.677E+1	1.910E+1	4.033E+0
3.992E+9	5.633E+1	1.940E+1	4.303E+0
4.198E+9	5.610E+1	1.943E+1	4.547E+0
4.415E+9	5.553E+1	1.980E+1	4.860E+0
4.643E+9	5.517E+1	2.007E+1	5.173E+0
4.883E+9	5.467E+1	2.030E+1	5.510E+0
5.135E+9	5.420E+1	2.060E+1	5.883E+0
5.400E+9	5.350E+1	2.090E+1	6.277E+0
5.679E+9	5.300E+1	2.127E+1	6.710E+0
5.972E+9	5.237E+1	2.137E+1	7.107E+0
6.281E+9	5.170E+1	2.147E+1	7.503E+0
6.605E+9	5.107E+1	2.190E+1	8.047E+0
6.946E+9	5.047E+1	2.203E+1	8.513E+0
7.305E+9	4.963E+1	2.240E+1	9.110E+0
7.682E+9	4.917E+1	2.253E+1	9.630E+0
8.079E+9	4.817E+1	2.293E+1	1.033E+1
8.496E+9	4.737E+1	2.307E+1	1.093E+1
8.935E+9	4.663E+1	2.350E+1	1.170E+1
9.397E+9	4.563E+1	2.363E+1	1.237E+1
9.882E+9	4.490E+1	2.380E+1	1.307E+1
1.039E+10	4.407E+1	2.383E+1	1.380E+1
1.093E+10	4.323E+1	2.413E+1	1.470E+1
1.149E+10	4.223E+1	2.410E+1	1.537E+1
1.209E+10	4.167E+1	2.433E+1	1.640E+1
1.271E+10	4.087E+1	2.420E+1	1.710E+1
1.337E+10	4.013E+1	2.500E+1	1.860E+1
1.406E+10	3.907E+1	2.487E+1	1.940E+1
1.478E+10	3.830E+1	2.480E+1	2.037E+1
1.555E+10	3.737E+1	2.523E+1	2.180E+1
1.635E+10	3.653E+1	2.543E+1	2.313E+1
1.720E+10	3.553E+1	2.540E+1	2.430E+1
1.808E+10	3.437E+1	2.580E+1	2.597E+1
1.902E+10	3.353E+1	2.567E+1	2.717E+1
2.000E+10	3.247E+1	2.617E+1	2.913E+1

Vitreous Humour

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.300E+8	6.970E+1	2.096E+2	1.520E+0
1.440E+8	6.900E+1	1.901E+2	1.520E+0
1.590E+8	6.850E+1	1.722E+2	1.520E+0
1.760E+8	6.840E+1	1.560E+2	1.530E+0
1.940E+8	6.860E+1	1.413E+2	1.530E+0
2.150E+8	6.860E+1	1.280E+2	1.530E+0
2.380E+8	6.870E+1	1.159E+2	1.530E+0
2.630E+8	6.860E+1	1.051E+2	1.540E+0
2.910E+8	6.850E+1	9.530E+1	1.540E+0
3.220E+8	6.830E+1	8.620E+1	1.540E+0
3.560E+8	6.830E+1	7.810E+1	1.550E+0
3.940E+8	6.840E+1	7.100E+1	1.550E+0
4.350E+8	6.830E+1	6.450E+1	1.560E+0
4.810E+8	6.820E+1	5.870E+1	1.570E+0
5.330E+8	6.820E+1	5.340E+1	1.580E+0
5.890E+8	6.820E+1	4.870E+1	1.600E+0
6.510E+8	6.820E+1	4.450E+1	1.610E+0
7.200E+8	6.820E+1	4.070E+1	1.630E+0
7.970E+8	6.800E+1	3.730E+1	1.650E+0
8.810E+8	6.790E+1	3.430E+1	1.680E+0
9.740E+8	6.790E+1	3.160E+1	1.710E+0
1.080E+9	6.780E+1	2.920E+1	1.750E+0
1.190E+9	6.770E+1	2.710E+1	1.800E+0
1.320E+9	6.760E+1	2.520E+1	1.850E+0
1.460E+9	6.750E+1	2.360E+1	1.910E+0
1.610E+9	6.740E+1	2.210E+1	1.990E+0
1.780E+9	6.720E+1	2.100E+1	2.080E+0
1.970E+9	6.710E+1	2.000E+1	2.190E+0
2.180E+9	6.690E+1	1.920E+1	2.330E+0
2.410E+9	6.680E+1	1.860E+1	2.490E+0
2.670E+9	6.670E+1	1.810E+1	2.690E+0
2.950E+9	6.650E+1	1.780E+1	2.930E+0
3.260E+9	6.640E+1	1.770E+1	3.210E+0
3.610E+9	6.630E+1	1.780E+1	3.580E+0
3.990E+9	6.610E+1	1.820E+1	4.040E+0
4.410E+9	6.580E+1	1.880E+1	4.610E+0
4.880E+9	6.530E+1	1.950E+1	5.300E+0
5.400E+9	6.480E+1	2.050E+1	6.150E+0
5.970E+9	6.400E+1	2.160E+1	7.190E+0
6.600E+9	6.300E+1	2.290E+1	8.430E+0
7.300E+9	6.180E+1	2.440E+1	9.900E+0
8.080E+9	6.030E+1	2.580E+1	1.160E+1
8.940E+9	5.860E+1	2.720E+1	1.353E+1
1.210E+10	5.170E+1	3.120E+1	2.101E+1
1.340E+10	4.890E+1	3.250E+1	2.414E+1
1.480E+10	4.580E+1	3.330E+1	2.736E+1
1.640E+10	4.200E+1	3.400E+1	3.095E+1
1.810E+10	3.820E+1	3.390E+1	3.412E+1
2.000E+10	3.490E+1	3.300E+1	3.667E+1

White Matter

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+1	3.322E+7	4.448E+7	2.475E-2
1.122E+1	3.058E+7	4.322E+7	2.698E-2
1.259E+1	2.814E+7	4.171E+7	2.921E-2
1.350E+1	2.531E+7	3.987E+7	3.133E-2
1.585E+1	2.258E+7	3.775E+7	3.329E-2
1.778E+1	1.995E+7	3.566E+7	3.528E-2
1.995E+1	1.748E+7	3.344E+7	3.712E-2
2.239E+1	1.527E+7	3.132E+7	3.900E-2
2.512E+1	1.325E+7	2.916E+7	4.075E-2
2.818E+1	1.142E+7	2.705E+7	4.241E-2
3.162E+1	9.791E+6	2.499E+7	4.397E-2
3.548E+1	8.342E+6	2.302E+7	4.545E-2
3.981E+1	7.105E+6	2.113E+7	4.680E-2
4.467E+1	6.009E+6	1.932E+7	4.801E-2
5.012E+1	5.077E+6	1.762E+7	4.913E-2
5.623E+1	4.279E+6	1.605E+7	5.021E-2
6.310E+1	3.606E+6	1.457E+7	5.115E-2
7.079E+1	3.029E+6	1.319E+7	5.194E-2
7.943E+1	2.544E+6	1.193E+7	5.270E-2
8.913E+1	2.137E+6	1.077E+7	5.338E-2
1.000E+2	1.787E+6	9.701E+6	5.397E-2
1.122E+2	1.495E+6	8.756E+6	5.465E-2
1.259E+2	1.252E+6	7.884E+6	5.521E-2
1.413E+2	1.050E+6	7.106E+6	5.584E-2
1.585E+2	8.817E+5	6.382E+6	5.628E-2
1.778E+2	7.441E+5	5.733E+6	5.671E-2
1.995E+2	6.224E+5	5.137E+6	5.703E-2
2.239E+2	5.278E+5	4.617E+6	5.750E-2
2.512E+2	4.461E+5	4.132E+6	5.774E-2
2.818E+2	3.783E+5	3.702E+6	5.804E-2
3.162E+2	3.223E+5	3.315E+6	5.833E-2
3.548E+2	2.746E+5	2.973E+6	5.869E-2
3.981E+2	2.371E+5	2.666E+6	5.905E-2
4.467E+2	2.031E+5	2.387E+6	5.930E-2
5.012E+2	1.748E+5	2.135E+6	5.952E-2
5.623E+2	1.501E+5	1.908E+6	5.970E-2
6.310E+2	1.301E+5	1.707E+6	5.993E-2
7.079E+2	1.130E+5	1.525E+6	6.007E-2
7.943E+2	9.822E+4	1.363E+6	6.023E-2
8.913E+2	8.590E+4	1.219E+6	6.043E-2
1.000E+3	7.504E+4	1.089E+6	6.058E-2
1.122E+3	6.608E+4	9.739E+5	6.079E-2
1.259E+3	5.794E+4	8.701E+5	6.094E-2
1.413E+3	5.126E+4	7.781E+5	6.115E-2
1.585E+3	4.556E+4	6.959E+5	6.136E-2
1.778E+3	3.976E+4	6.226E+5	6.159E-2
1.995E+3	3.572E+4	5.587E+5	6.201E-2
2.239E+3	3.230E+4	5.008E+5	6.238E-2
2.512E+3	2.879E+4	4.479E+5	6.260E-2
2.818E+3	2.585E+4	4.010E+5	6.288E-2
3.162E+3	2.317E+4	3.590E+5	6.316E-2
3.548E+3	2.102E+4	3.216E+5	6.348E-2
3.981E+3	1.902E+4	2.878E+5	6.373E-2
4.467E+3	1.719E+4	2.575E+5	6.400E-2
5.012E+3	1.555E+4	2.304E+5	6.423E-2
5.623E+3	1.417E+4	2.064E+5	6.457E-2
6.310E+3	1.292E+4	1.851E+5	6.496E-2
7.079E+3	1.185E+4	1.658E+5	6.531E-2
7.943E+3	1.082E+4	1.486E+5	6.568E-2
8.913E+3	9.971E+3	1.331E+5	6.599E-2

Frequency (Hz)	Ovine @ 37°C Current study measurements ε′	ε″	σ (S/m)
1.000E+4	9.105E+3	1.192E+5	6.630E-2
1.122E+4	8.455E+3	1.070E+5	6.680E-2
1.259E+4	7.833E+3	9.593E+4	6.719E-2
1.413E+4	7.207E+3	8.576E+4	6.739E-2
1.585E+4	6.645E+3	7.682E+4	6.773E-2
1.778E+4	6.165E+3	6.887E+4	6.813E-2
1.995E+4	5.726E+3	6.172E+4	6.851E-2
2.239E+4	5.324E+3	5.536E+4	6.895E-2
2.512E+4	4.961E+3	4.960E+4	6.931E-2
2.818E+4	4.601E+3	4.448E+4	6.975E-2
3.162E+4	4.295E+3	3.993E+4	7.025E-2
3.548E+4	3.997E+3	3.584E+4	7.074E-2
3.981E+4	3.742E+3	3.216E+4	7.124E-2
4.467E+4	3.487E+3	2.888E+4	7.177E-2
5.012E+4	3.262E+3	2.593E+4	7.229E-2
5.623E+4	3.054E+3	2.330E+4	7.290E-2
6.310E+4	2.851E+3	2.093E+4	7.346E-2
7.079E+4	2.658E+3	1.880E+4	7.404E-2
7.943E+4	2.497E+3	1.692E+4	7.476E-2
8.913E+4	2.334E+3	1.521E+4	7.542E-2
1.000E+5	2.190E+3	1.371E+4	7.625E-2
1.122E+5	2.052E+3	1.234E+4	7.701E-2
1.259E+5	1.925E+3	1.111E+4	7.785E-2
1.413E+5	1.807E+3	1.001E+4	7.868E-2
1.585E+5	1.686E+3	9.032E+3	7.964E-2
1.778E+5	1.595E+3	8.161E+3	8.073E-2
1.995E+5	1.498E+3	7.360E+3	8.170E-2
2.239E+5	1.404E+3	6.642E+3	8.272E-2
2.512E+5	1.317E+3	5.998E+3	8.382E-2
2.818E+5	1.236E+3	5.425E+3	8.506E-2
3.162E+5	1.158E+3	4.900E+3	8.620E-2
3.548E+5	1.086E+3	4.440E+3	8.765E-2
3.981E+5	1.019E+3	4.021E+3	8.905E-2
4.467E+5	9.561E+2	3.647E+3	9.062E-2
5.012E+5	8.969E+2	3.308E+3	9.223E-2
5.623E+5	8.401E+2	2.999E+3	9.383E-2
6.310E+5	7.872E+2	2.723E+3	9.557E-2
7.079E+5	7.379E+2	2.474E+3	9.742E-2
7.943E+5	6.907E+2	2.248E+3	9.932E-2
8.913E+5	6.467E+2	2.042E+3	1.013E-1
1.000E+6	6.051E+2	1.856E+3	1.033E-1
1.122E+6	5.662E+2	1.689E+3	1.054E-1
1.259E+6	5.305E+2	1.542E+3	1.080E-1
1.413E+6	4.970E+2	1.405E+3	1.104E-1
1.585E+6	4.630E+2	1.274E+3	1.123E-1
1.778E+6	4.335E+2	1.160E+3	1.148E-1
1.995E+6	4.071E+2	1.052E+3	1.168E-1
2.239E+6	3.957E+2	9.615E+2	1.197E-1
2.512E+6	3.648E+2	8.855E+2	1.237E-1
2.818E+6	3.388E+2	8.094E+2	1.269E-1
3.162E+6	3.169E+2	7.403E+2	1.302E-1
3.548E+6	2.960E+2	6.767E+2	1.336E-1
3.981E+6	2.776E+2	6.180E+2	1.369E-1
4.467E+6	2.605E+2	5.649E+2	1.404E-1
5.012E+6	2.439E+2	5.164E+2	1.440E-1
5.623E+6	2.287E+2	4.719E+2	1.476E-1
6.310E+6	2.150E+2	4.312E+2	1.514E-1
7.079E+6	2.028E+2	3.949E+2	1.555E-1
7.943E+6	1.902E+2	3.610E+2	1.595E-1
8.913E+6	1.800E+2	3.286E+2	1.629E-1

White Matter

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.000E+7	1.750E+2	3.004E+2	1.671E-1
1.089E+7	1.700E+2	2.888E+2	1.750E-1
1.194E+7	1.650E+2	2.806E+2	1.865E-1
1.310E+7	1.621E+2	2.661E+2	1.938E-1
1.436E+7	1.607E+2	2.518E+2	2.011E-1
1.574E+7	1.499E+2	2.415E+2	2.115E-1
1.726E+7	1.430E+2	2.170E+2	2.084E-1
1.893E+7	1.352E+2	2.027E+2	2.135E-1
2.075E+7	1.298E+2	1.920E+2	2.217E-1
2.276E+7	1.228E+2	1.793E+2	2.270E-1
2.495E+7	1.159E+2	1.697E+2	2.356E-1
2.736E+7	1.118E+2	1.591E+2	2.421E-1
3.000E+7	1.067E+2	1.477E+2	2.466E-1
3.289E+7	1.016E+2	1.398E+2	2.559E-1
3.607E+7	9.778E+1	1.305E+2	2.618E-1
3.955E+7	9.343E+1	1.235E+2	2.717E-1
4.336E+7	8.936E+1	1.165E+2	2.812E-1
4.755E+7	8.529E+1	1.089E+2	2.880E-1
5.213E+7	8.121E+1	1.025E+2	2.973E-1
5.716E+7	7.801E+1	9.614E+1	3.057E-1
6.268E+7	7.427E+1	9.031E+1	3.149E-1
6.873E+7	7.129E+1	8.472E+1	3.239E-1
7.536E+7	6.816E+1	7.932E+1	3.325E-1
8.263E+7	6.533E+1	7.436E+1	3.418E-1
9.060E+7	6.289E+1	6.948E+1	3.502E-1
9.934E+7	6.042E+1	6.519E+1	3.603E-1
1.089E+8	5.864E+1	6.123E+1	3.710E-1
1.194E+8	5.643E+1	5.748E+1	3.819E-1
1.310E+8	5.454E+1	5.391E+1	3.928E-1
1.436E+8	5.267E+1	5.065E+1	4.046E-1
1.574E+8	5.107E+1	4.726E+1	4.140E-1
1.726E+8	4.970E+1	4.400E+1	4.225E-1
1.893E+8	4.841E+1	4.122E+1	4.341E-1
2.075E+8	4.695E+1	3.849E+1	4.445E-1
2.276E+8	4.557E+1	3.596E+1	4.553E-1
2.495E+8	4.455E+1	3.354E+1	4.656E-1
2.736E+8	4.364E+1	3.129E+1	4.763E-1
3.000E+8	4.281E+1	2.923E+1	4.878E-1
3.289E+8	4.185E+1	2.725E+1	4.987E-1
3.607E+8	4.114E+1	2.535E+1	5.087E-1
3.955E+8	4.045E+1	2.376E+1	5.228E-1
4.336E+8	3.984E+1	2.213E+1	5.339E-1
4.755E+8	3.952E+1	2.058E+1	5.443E-1
5.213E+8	3.891E+1	1.956E+1	5.673E-1
5.716E+8	3.832E+1	1.828E+1	5.814E-1
6.268E+8	3.786E+1	1.710E+1	5.964E-1
6.873E+8	3.776E+1	1.628E+1	6.223E-1
7.536E+8	3.720E+1	1.487E+1	6.236E-1
8.263E+8	3.686E+1	1.472E+1	6.766E-1
9.060E+8	3.784E+1	1.317E+1	6.638E-1
9.934E+8	3.635E+1	1.373E+1	7.589E-1
1.089E+9	3.697E+1	1.245E+1	7.542E-1
1.194E+9	3.652E+1	1.289E+1	8.564E-1
1.310E+9	3.534E+1	1.290E+1	9.397E-1
1.436E+9	3.580E+1	1.228E+1	9.813E-1
1.574E+9	3.630E+1	1.100E+1	1.000E+0
1.612E+9	3.689E+1	1.117E+1	1.002E+0
1.696E+9	3.673E+1	1.104E+1	1.041E+0
1.783E+9	3.658E+1	1.083E+1	1.075E+0
1.875E+9	3.656E+1	1.067E+1	1.113E+0

Frequency (Hz)	Ovine @ 37°C Current study measurements		
	ε'	ε''	σ (S/m)
1.972E+9	3.634E+1	1.050E+1	1.152E+0
2.074E+9	3.626E+1	1.036E+1	1.195E+0
2.181E+9	3.608E+1	1.022E+1	1.240E+0
2.294E+9	3.592E+1	1.019E+1	1.300E+0
2.412E+9	3.579E+1	1.016E+1	1.363E+0
2.537E+9	3.564E+1	1.009E+1	1.424E+0
2.668E+9	3.545E+1	1.001E+1	1.485E+0
2.806E+9	3.528E+1	1.003E+1	1.565E+0
2.951E+9	3.510E+1	1.002E+1	1.645E+0
3.103E+9	3.491E+1	9.962E+0	1.720E+0
3.263E+9	3.471E+1	9.964E+0	1.809E+0
3.432E+9	3.452E+1	1.001E+1	1.911E+0
3.609E+9	3.428E+1	1.003E+1	2.014E+0
3.796E+9	3.409E+1	9.991E+0	2.110E+0
3.992E+9	3.397E+1	1.007E+1	2.235E+0
4.198E+9	3.369E+1	1.028E+1	2.400E+0
4.415E+9	3.354E+1	1.046E+1	2.568E+0
4.643E+9	3.319E+1	1.054E+1	2.721E+0
4.883E+9	3.283E+1	1.070E+1	2.907E+0
5.135E+9	3.249E+1	1.097E+1	3.133E+0
5.400E+9	3.206E+1	1.101E+1	3.309E+0
5.679E+9	3.158E+1	1.114E+1	3.518E+0
5.972E+9	3.108E+1	1.118E+1	3.713E+0
6.281E+9	3.076E+1	1.137E+1	3.972E+0
6.605E+9	3.017E+1	1.128E+1	4.146E+0
6.946E+9	2.961E+1	1.125E+1	4.347E+0
7.305E+9	2.908E+1	1.124E+1	4.566E+0
7.682E+9	2.863E+1	1.109E+1	4.740E+0
8.079E+9	2.812E+1	1.111E+1	4.992E+0
8.496E+9	2.763E+1	1.097E+1	5.185E+0
8.935E+9	2.712E+1	1.086E+1	5.400E+0
9.397E+9	2.663E+1	1.064E+1	5.560E+0
9.882E+9	2.615E+1	1.040E+1	5.715E+0
1.039E+10	2.566E+1	1.009E+1	5.833E+0
1.093E+10	2.537E+1	9.892E+0	6.014E+0
1.149E+10	2.498E+1	9.555E+0	6.109E+0
1.209E+10	2.482E+1	9.259E+0	6.226E+0
1.271E+10	2.462E+1	9.006E+0	6.369E+0
1.337E+10	2.435E+1	8.587E+0	6.386E+0
1.406E+10	2.423E+1	8.469E+0	6.624E+0
1.478E+10	2.410E+1	8.306E+0	6.831E+0
1.555E+10	2.404E+1	7.994E+0	6.915E+0
1.635E+10	2.382E+1	7.889E+0	7.177E+0
1.720E+10	2.391E+1	7.728E+0	7.393E+0
1.808E+10	2.379E+1	7.782E+0	7.829E+0
1.902E+10	2.379E+1	7.693E+0	8.139E+0
2.000E+10	2.373E+1	7.687E+0	8.553E+0