

Table B.1 List of media, their elemental compositions (percentage by mass), and their densities for the adult male reference computational phantom.

Medium no.		H ₁	C ₆	N ₇	O ₈	Na ₁₁	Mg ₁₂	P ₁₅	S ₁₆	Cl ₁₇	K ₁₉	Ca ₂₀	Fe ₂₆	I ₅₃	Density (g/cm)
1	Teeth	2.2	9.5	2.9	42.1		0.7	13.7				28.9			2.750
2	Mineral bone	3.6	15.9	4.2	44.8	0.3	0.2	9.4	0.3			21.3			1.920
3	Humeri, upper half, spongiosa	8.5	28.8	2.6	49.8	0.2	0.1	3.3	0.4	0.2		6.1			1.205
4	Humeri, lower half, spongiosa	9.7	43.9	1.7	38.1	0.2		2.1	0.3	0.1		3.9			1.108
5	Lower arm bones, spongiosa	9.7	43.9	1.7	38.1	0.2		2.1	0.3	0.1		3.9			1.108
6	Hand bones, spongiosa	9.7	43.9	1.7	38.1	0.2		2.1	0.3	0.1		3.9			1.108
7	Clavicles, spongiosa	9.1	34.8	2.4	45.7	0.2		2.6	0.3	0.1		4.8			1.151
8	Cranium, spongiosa	9.0	33.5	2.5	46.7	0.2		2.6	0.3	0.2	0.1	4.9			1.157
9	Femora, upper half, spongiosa	9.4	38.5	2.2	43.0	0.2		2.2	0.3	0.1		4.1			1.124
10	Femora, lower half, spongiosa	9.7	43.9	1.7	38.1	0.2		2.1	0.3	0.1		3.9			1.108
11	Lower leg bones, spongiosa	9.7	43.9	1.7	38.1	0.2		2.1	0.3	0.1		3.9			1.108
12	Foot bones, spongiosa	9.7	43.9	1.7	38.1	0.2		2.1	0.3	0.1		3.9			1.108
13	Mandible, spongiosa	8.3	26.6	2.7	51.1	0.3	0.1	3.6	0.4	0.2		6.7			1.228
14	Pelvis, spongiosa	9.4	36.0	2.5	45.4	0.2		2.1	0.3	0.2	0.1	3.8			1.123
15	Ribs, spongiosa	8.9	29.2	2.9	50.7	0.2		2.6	0.4	0.2	0.1	4.8			1.165
16	Scapulae, spongiosa	8.7	30.9	2.6	48.3	0.2	0.1	3.0	0.4	0.2		5.6			1.183
17	Cervical spine, spongiosa	10.3	40.0	2.7	44.4	0.1		0.7	0.2	0.2	0.1	1.2	0.1		1.050
18	Thoracic spine, spongiosa	9.9	37.6	2.7	45.9	0.1		1.2	0.2	0.2	0.1	2.0	0.1		1.074
19	Lumbar spine, spongiosa	9.5	34.0	2.8	48.0	0.1		1.8	0.3	0.2	0.1	3.2			1.112
20	Sacrum, spongiosa	10.5	41.9	2.7	43.2	0.1		0.4	0.2	0.2	0.1	0.6	0.1		1.031
21	Sternum, spongiosa	10.4	40.9	2.7	43.8	0.1		0.6	0.2	0.2	0.1	0.9	0.1		1.041
22	Humeri and femora, upper halves, medullary cavity	11.5	63.6	0.7	23.9	0.1			0.1	0.1					0.980

(continued on next page)

Table B.1 (continued)

Medium no.		H ₁	C ₆	N ₇	O ₈	Na ₁₁	Mg ₁₂	P ₁₅	S ₁₆	Cl ₁₇	K ₁₉	Ca ₂₀	Fe ₂₆	I ₅₃	Density (g/cm)
23	Humeri and femora, lower halves, medullary cavity	11.5	63.6	0.7	23.9	0.1			0.1	0.1					0.980
24	Lower arm bones, medullary cavity	11.5	63.6	0.7	23.9	0.1			0.1	0.1					0.980
25	Lower leg bones, medullary cavity	11.5	63.6	0.7	23.9	0.1			0.1	0.1					0.980
26	Cartilage	9.6	9.9	2.2	74.4	0.5		2.2	0.9	0.3					1.100
27	Skin	10.0	19.9	4.2	65.0	0.2		0.1	0.2	0.3	0.1				1.090
28	Blood	10.2	11.0	3.3	74.5	0.1		0.1	0.2	0.3	0.2		0.1		1.060
29	Muscle tissue	10.2	14.2	3.4	71.1	0.1		0.2	0.3	0.1	0.4				1.050
30	Liver	10.2	13.0	3.1	72.5	0.2		0.2	0.3	0.2	0.3				1.050
31	Pancreas	10.5	15.5	2.5	70.6	0.2		0.2	0.1	0.2	0.2				1.050
32	Brain	10.7	14.3	2.3	71.3	0.2		0.4	0.2	0.3	0.3				1.050
33	Heart	10.4	13.8	2.9	71.9	0.1		0.2	0.2	0.2	0.3				1.050
34	Eyes	9.7	18.1	5.3	66.3	0.1		0.1	0.3	0.1					1.050
35	Kidneys	10.3	12.4	3.1	73.1	0.2		0.2	0.2	0.2	0.2	0.1			1.050
36	Stomach	10.5	11.4	2.5	75.0	0.1		0.1	0.1	0.2	0.1				1.040
37	Small intestine	10.5	11.3	2.6	75.0	0.1		0.1	0.1	0.2	0.1				1.040
38	Large intestine	10.5	11.3	2.6	75.0	0.1		0.1	0.1	0.2	0.1				1.040
39	Spleen	10.2	11.1	3.3	74.3	0.1		0.2	0.2	0.3	0.2		0.1		1.040
40	Thyroid	10.4	11.7	2.6	74.5	0.2		0.1	0.1	0.2	0.1			0.1	1.040
41	Urinary bladder	10.5	9.6	2.6	76.1	0.2		0.2	0.2	0.3	0.3				1.040
42	Testes	10.6	10.0	2.1	76.4	0.2		0.1	0.2	0.2	0.2				1.040
43	Adrenals	10.4	22.1	2.8	63.7	0.1		0.2	0.3	0.2	0.2				1.030
44	Oesophagus	10.4	21.3	2.9	64.4	0.1		0.2	0.3	0.2	0.2				1.030
45	Gall bladder, pituitary gland, trachea, thymus, tonsils, ureters	10.4	23.1	2.8	62.7	0.1		0.2	0.3	0.2	0.2				1.030
46	Prostate	10.4	23.1	2.8	62.7	0.1		0.2	0.3	0.2	0.2				1.030
47	Lymph	10.8	4.2	1.1	83.1	0.3			0.1	0.4					1.030
48	Breast (mammary gland)	11.2	51.6	1.1	35.8	0.1			0.1	0.1					1.020
49	Adipose tissue	11.4	58.8	0.8	28.7	0.1			0.1	0.1					0.950
50	Lung tissue (compressed lungs)	10.3	10.7	3.2	74.6	0.2		0.2	0.3	0.3	0.2				0.382
51	Gastro-intestinal tract – contents*	10.0	22.2	2.2	64.4	0.1		0.2	0.3	0.1	0.4	0.1			1.040
52	Urine	10.7	0.3	1.0	87.3	0.4		0.1			0.2				1.040
53	Air			80.0	20.0										0.001

* White et al. (1987).