

Network topology

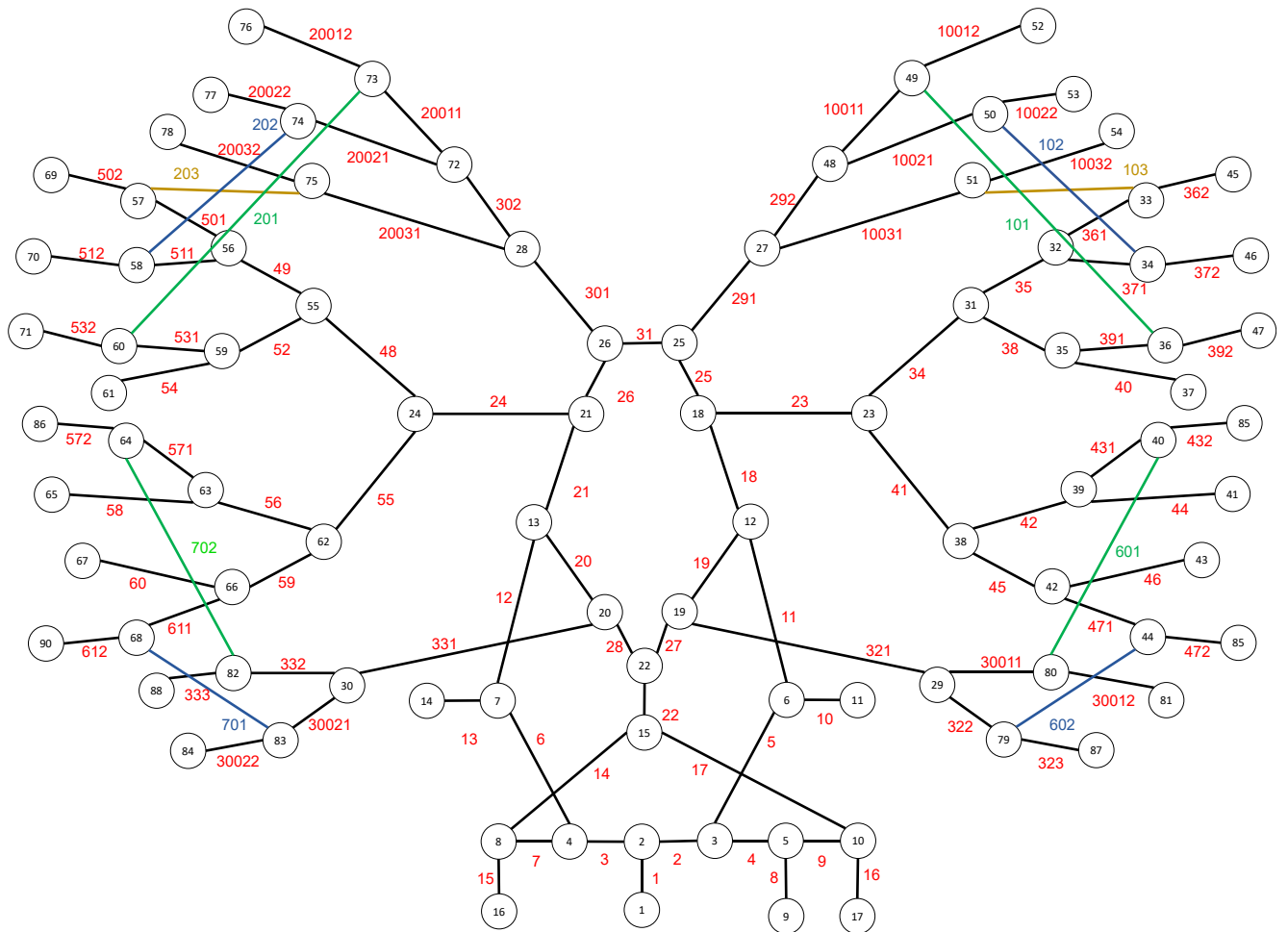


Figure 1: The network for healthy subject. Main arteries are indicated by the black lines and numbered in red. Leptomeningeal collaterals are identified by blue, yellow and green lines and numbered in the same colour.

Geometrical and material properties

Name	L (cm)	R_0 (mm)	E (kPa)	R_1+R_2 ($10^9 \text{ Pa} \cdot \text{s} \cdot \text{m}^{-3}$)	C_c ($10^{-10} \text{ m}^3 \cdot \text{Pa}^{-1}$)
1-Ascendingaorta	4.0	12.0	400		
2-Aorticarchi	2.0	11.2	400		
3-Brachiocephalic	3.4	6.2	400		
4-Aorticarchii	3.9	10.7	400		
5-L-Commoncarotid	20.8	2.5	400		
6-R-Commoncarotid	17.7	2.5	400		
7-R-Subclavian	3.4	4.23	400		
8-Thoracicaorta	15.6	9.8	400	0.18	3.87
9-L-Subclavian	3.4	4.23	400		
10-L-Ext-Carotid	17.7	1.5	800	5.43	1.27
11-L-Int-Carotidi	17.7	2.0	800		
12-R-Int-Carotidi	17.7	2.0	800		
13-R-Ext-Carotid	17.7	1.5	800	5.43	1.27
14-R-Vertebral	14.8	1.36	800		
15-R-Brachial	42.2	4.03	400	2.68	2.58
16-L-Brachial	42.2	4.03	400	2.68	2.58
17-L-Vertebral	14.8	1.36	800		
18-L-Int-Carotidii	0.5	2.0	1600		
19-L-Pcoa	1.5	0.73	1600		
20-R-Pcoa	1.5	0.73	1600		
21-R-Int-Carotidii	0.5	2.0	1600		
22-Basilar	2.9	1.7	1600		
23-L-Mca	11.9	1.43	1600		
24-R-Mca	11.9	1.43	1600		
25-L-Aca-A1	1.2	1.17	1600		
26-R-Aca-A1	1.2	1.17	1600		
27-L-Pca-P1	0.5	1.07	1600		
28-R-Pca-P1	0.5	1.07	1600		
291-L-Aca-A2i	5.15	1.2	1600		
301-R-Aca-A2	5.15	1.2	1600		
31-Acoa	0.3	0.54	1600		
321-L-Pca-P2	4.3	1.05	1600		
331-R-Pca-P2	4.3	1.05	1600		
34-Sup-Trunk-Mca-I-L	6.81	1.13	2400		
35-Sup-Trunk-Mca-Iii-L	5.5	1.0	2400		
361-Orb-Frontal-L	2.55	0.72	2400		
371-Prefrontal-L	1.82	0.71	2400		
38-Sup-Trunk-Mca-Iiii-L	3.4	1.01	2400		
391-Central-L	1.855	0.7	2400		
40-Angular-L	21.0	0.8	2400	28.2	0.17
41-Inf-Trunk-Mca-I-L	4.0	1.13	2400		
42-Inf-Trunk-Mca-Iii-L	3.56	1.1	2400		

431-Temp-Occipital-L	4.6	0.77	2400		
44-Mid-Temp-L	8.91	0.77	2400	30.6	0.158
45-Inf-Trunk-Mca-llii-L	3.76	1.0	2400		
46-Ant-Temp-L	9.5	0.71	2400	30.6	0.134
471-Temp-Pol-L	3.9	0.71	2400		
362-Orb-Frontal-L	2.55	0.72	2400	35	0.138
372-Prefrontal-L	1.82	0.71	2400	36	0.134
392-Central-L	1.855	0.7	2400	37	0.13
432-Temp-Occipital-L	4.6	0.77	2400	30.6	0.158
472-Temp-Pol-L	3.9	0.71	2400	30.6	0.134
292-L-Aca-A2ii	5.15	1.2	1600		
10011-Paracentral-L-Aca-A2	2.12	0.9	1600		
10021-Polarfrontal-L-Aca-A2	2.45	1.0	1600		
10031-Orbfrontal-L-Aca-A2	2.265	1.0	1600		
10012-Paracentral-L-Aca-A2	2.12	0.9	1600	31.6	0.198
10022-Polarfrontal-L-Aca-A2	2.45	1.0	1600	25.6	0.31
10032-Orbfrontal-L-Aca-A2	2.265	1.0	1600	25.6	0.31
101-Lma-Aca-Mca-I-L	0.52	0.34	2400		
102-Lma-Aca-Mca-II-L	0.52	0.34	2400		
103-Lma-Aca-Mca-II-L	0.52	0.34	2400		
48-Sup-Trunk-Mca-I-R	6.81	1.13	2400		
49-Sup-Trunk-Mca-II-R	5.5	1.0	2400		
501-Orb-Frontal-R	2.55	0.72	2400		
511-Prefrontal-R	1.82	0.71	2400		
52-Sup-Trunk-Mca-IIII-R	3.4	1.01	2400		
531-Central-R	1.855	0.7	2400		
54-Angular-R	21.0	0.8	2400	28.2	0.17
55-Inf-Trunk-Mca-I-R	4.0	1.13	2400		
56-Inf-Trunk-Mca-II-R	3.56	1.1	2400		
571-Temp-Occipital-R	4.6	0.77	2400		
58-Mid-Temp-R	8.91	0.77	2400	30.6	0.158
59-Inf-Trunk-Mca-IIII-R	3.76	1.0	2400		
60-Ant-Temp-R	9.5	0.71	2400	30.6	0.134
611-Temp-Pol-R	3.9	0.71	2400		
502-Orb-Frontal-R	2.55	0.72	2400	35	0.138
512-Prefrontal-R	1.82	0.71	2400	36	0.134
532-Central-R	1.855	0.7	2400	37	0.13
572-Temp-Occipital-R	4.6	0.77	2400	30.6	0.158
612-Temp-Pol-R	3.9	0.71	2400	30.6	0.134
302-R-Aca-A2ii	5.15	1.2	1600		
20011-Paracentral-R-Aca-A2	2.12	0.9	1600		
20021-Polarfrontal-R-Aca-A2	2.45	1.0	1600		
20031-Orbfrontal-R-Aca-A2	2.265	1.0	1600		
20012-Paracentral-R-Aca-A2	2.12	0.9	1600	31.6	0.198
20022-Polarfrontal-R-Aca-A2	2.45	1.0	1600	25.6	0.31
20032-Orbfrontal-R-Aca-A2	2.265	1.0	1600	25.6	0.31

201-Lma-Aca-Mca-I-R	0.52	0.34	2400		
202-Lma-Aca-Mca-li-R	0.52	0.34	2400		
203-Lma-Aca-Mca-lii-R	0.52	0.34	2400		
322-L-Pca-P2	2.15	1.05	1600		
30011-L-Parietooccipital-I	1.5	1.05	1600		
30012-L-Parietooccipital-li	1.5	1.05	1600	24	0.62
323-L-Pca-P2	2.15	1.05	1600	24	0.62
332-R-Pca-P2	2.15	1.05	1600		
30021-R-Parietooccipital-I	1.5	1.05	1600		
30022-R-Parietooccipital-li	1.5	1.05	1600	24	0.62
333-R-Pca-P2	2.15	1.05	1600	24	0.62
601-Lma-Pca-Mca-I-L	0.52	0.34	2400		
701-Lma-Pca-Mca-I-R	0.52	0.34	2400		
602-Lma-Pca-Mca-li-L	0.52	0.34	2400		
702-Lma-Pca-Mca-li-R	0.52	0.34	2400		