Table S1. **Vessel dimensions and network connectivity of the 400-vessel subtree**

Vessel no.	**Length**	**Diameter**	**Vessel order**	**Daughter 1 Vessel no.**	**Daughter 2 Vessel no.**	**Daughter 3 Vessel no.**
	μm	μm				
1	522.9	104.8	6	2	3	0
2	560.2	98.3	5	4	5	0
3	445.6	97.6	5	6	7	0
4	172.2	52.0	4	8	9	0
5	395.7	97.8	5	10	11	0
6	89.8	52.0	4	12	13	0
7	129.2	95.5	5	14	15	0
8	124.8	21.7	3	16	17	0
9	257.4	52.0	4	18	19	0
10	412.2	52.0	4	20	21	0
11	104.2	52.0	4	22	23	0
12	47.9	15.4	2	24	25	0
13	80.0	22.7	3	26	27	0
14	196.5	52.0	4	28	29	0
15	205.9	94.9	5	30	31	0
16	154.5	15.4	2	32	33	0
17	122.0	15.4	2	34	35	0
18	25.7	14.4	2	36	37	0
19	45.7	22.7	3	38	39	0
20	175.4	22.7	3	40	41	0
21	16.3	15.4	2	42	43	0
22	161.8	15.4	2	44	45	0
23	95.1	22.7	3	46	47	0
24	92.3	10.7	1	48	49	0
25	55.8	10.7	1	50	51	0
26	32.2	15.4	2	52	53	0
27	40.5	15.4	2	54	55	0
28	145.1	22.7	3	56	57	0
29	96.7	15.4	2	58	59	0
30	160.3	52.0	4	60	61	0
31	1249.3	95.8	5	62	63	0
32	24.7	10.7	1	64	65	0
33	30.0	6.4	1	0	0	0

34	253.7	5.6	0	0	0	0
35	29.4	10.7	1	66	67	0
36	67.2	7.0	1	0	0	0
37	348.2	4.3	0	0	0	0
38	166.4	15.4	2	68	69	0
39	83.4	15.4	2	70	71	0
40	126.0	15.4	2	72	73	0
41	117.5	9.7	1	74	75	0
42	93.9	10.7	1	76	77	0
43	59.2	14.4	2	78	79	0
44	44.6	10.7	1	80	81	0
45	100.2	15.4	2	82	83	0
46	112.0	15.4	2	84	85	0
47	98.5	22.7	3	86	87	0
48	190.0	5.8	0	0	0	0
49	18.6	10.7	1	88	89	0
50	376.1	5.4	0	0	0	0
51	82.6	10.7	1	90	91	0
52	122.8	6.4	0	0	0	0
53	118.4	15.4	2	92	93	0
54	8.7	10.7	1	94	95	0
55	126.3	15.4	2	96	97	0
56	50.3	14.4	2	98	99	0
57	51.0	22.7	3	100	101	0
58	55.3	10.7	1	102	103	0
59	167.6	15.4	2	104	105	0
60	92.2	14.4	2	106	107	0
61	123.8	52.0	4	108	109	0
62	399.1	52.0	4	110	111	0
63	147.4	52.0	4	112	113	0
64	244.6	3.8	0	0	0	0
65	25.2	6.4	1	0	0	0
66	228.1	7.1	0	0	0	0
67	87.6	10.7	1	114	115	0
68	95.6	9.1	1	0	0	0
69	88.7	14.4	2	116	117	0
70	67.5	10.7	1	118	119	0
71	62.4	15.4	2	120	121	0

72	109.5	9.5	1	0	0	0
73	50.7	14.4	2	122	123	0
74	262.0	6.2	0	0	0	0
75	42.9	9.9	1	124	125	0
76	263.7	5.9	0	0	0	0
77	50.7	7.2	1	0	0	0
78	25.1	10.7	1	126	127	0
79	37.7	10.3	1	128	129	0
80	328.3	8.4	0	0	0	0
81	72.3	10.7	1	130	131	0
82	44.0	7.9	1	0	0	0
83	223.7	5.5	0	0	0	0
84	141.4	10.7	1	132	133	0
85	65.9	10.7	1	134	135	0
86	133.7	15.4	2	136	137	0
87	27.1	14.4	2	138	139	0
88	367.1	5.9	0	0	0	0
89	45.5	7.2	1	0	0	0
90	346.9	6.8	0	0	0	0
91	54.8	10.7	1	140	141	0
92	108.0	8.7	1	0	0	0
93	188.5	15.4	2	142	143	0
94	238.0	5.7	0	0	0	0
95	37.3	6.4	1	0	0	0
96	5.1	10.7	1	144	145	0
97	36.0	15.4	2	146	147	0
98	184.8	7.3	0	0	0	0
99	100.9	9.2	1	0	0	0
100	8.6	15.4	2	148	149	0
101	65.3	15.4	2	150	151	0
102	126.1	5.5	0	0	0	0
103	151.3	10.7	1	152	153	0
104	97.3	9.7	1	0	0	0
105	36.5	10.7	1	154	155	0
106	62.7	10.7	1	156	157	0
107	18.7	14.4	2	158	159	0
108	39.3	22.7	3	160	161	0
109	287.8	52.0	4	162	163	0

110	81.5	22.7	3	164	165	0
111	23.7	21.7	3	166	167	0
112	128.8	15.4	2	168	169	0
113	74.4	22.7	3	170	171	0
114	188.5	6.2	0	0	0	0
115	71.8	10.7	1	172	173	0
116	256.0	6.1	0	0	0	0
117	107.6	10.6	1	0	0	0
118	220.9	5.6	0	0	0	0
119	48.3	10.7	1	174	175	0
120	30.2	10.7	1	176	177	0
121	59.8	10.7	1	178	179	0
122	367.1	5.9	0	0	0	0
123	35.8	10.7	1	180	181	0
124	348.3	4.9	0	0	0	0
125	1.3	4.4	1	0	0	0
126	224.2	5.9	0	0	0	0
127	27.1	10.7	1	182	183	0
128	212.8	5.6	0	0	0	0
129	18.1	6.4	1	0	0	0
130	310.1	3.8	0	0	0	0
131	66.7	9.0	1	0	0	0
132	218.9	4.4	0	0	0	0
133	79.0	10.3	1	0	0	0
134	4.1	10.7	1	184	185	0
135	74.4	10.7	1	186	187	0
136	4.6	10.7	1	188	189	0
137	72.3	15.4	2	190	191	0
138	117.0	10.7	1	192	193	0
139	111.2	6.7	0	0	0	0
140	348.7	5.2	0	0	0	0
141	78.4	10.7	1	194	195	0
142	4.5	10.7	1	196	197	0
143	27.7	14.4	2	198	199	0
144	143.9	4.7	0	0	0	0
145	123.8	10.7	1	200	201	0
146	33.9	10.7	1	202	203	0
147	73.9	10.7	1	204	205	0

148	55.9	10.7	1	206	207	0
149	37.6	6.4	1	0	0	0
150	3.6	10.7	1	208	209	0
151	35.5	14.4	2	210	211	0
152	223.2	5.7	0	0	0	0
153	14.4	7.7	1	0	0	0
154	294.5	6.5	0	0	0	0
155	20.7	7.4	1	0	0	0
156	301.8	5.1	0	0	0	0
157	28.6	10.7	1	212	213	0
158	69.6	10.7	1	214	215	0
159	251.2	3.6	0	0	0	0
160	141.3	14.5	2	216	217	0
161	344.2	6.2	0	0	0	0
162	80.2	22.7	3	218	219	0
163	122.0	52.0	4	220	221	0
164	39.8	14.4	2	222	223	0
165	121.5	22.7	3	224	225	0
166	62.5	14.8	2	226	227	0
167	10.2	22.7	3	228	229	0
168	69.5	10.7	1	230	231	0
169	29.6	14.4	2	232	233	0
170	135.5	15.4	2	234	235	0
171	37.4	14.4	2	236	237	0
172	307.1	6.6	0	0	0	0
173	29.3	8.9	1	0	0	0
174	273.8	6.7	0	0	0	0
175	25.2	10.7	1	238	239	0
176	300.2	5.2	0	0	0	0
177	71.0	10.7	1	240	241	0
178	195.5	5.2	0	0	0	0
179	40.6	10.7	1	242	243	0
180	246.4	7.3	0	0	0	0
181	54.8	8.7	1	0	0	0
182	151.4	5.6	0	0	0	0
183	77.1	10.7	1	244	245	0
184	275.7	6.9	0	0	0	0
185	69.9	8.8	1	0	0	0

186	187.3	6.9	0	0	0	0
187	132.1	10.7	1	246	247	0
188	208.8	5.8	0	0	0	0
189	77.4	8.2	1	0	0	0
190	92.6	10.7	1	248	249	0
191	49.8	10.7	1	250	251	0
192	242.0	7.6	0	0	0	0
193	164.4	10.7	1	252	253	0
194	299.5	8.5	0	0	0	0
195	60.6	10.7	1	0	0	0
196	184.4	6.6	0	0	0	0
197	123.4	10.7	1	254	255	0
198	109.9	10.7	1	256	257	0
199	85.9	9.4	1	0	0	0
200	322.9	7.4	0	0	0	0
201	2.3	10.7	1	258	259	0
202	261.8	5.7	0	0	0	0
203	102.2	10.7	1	260	261	0
204	295.3	5.8	0	0	0	0
205	47.4	9.5	1	0	0	0
206	234.9	6.0	0	0	0	0
207	37.0	10.7	1	262	263	0
208	267.2	5.1	0	0	0	0
209	41.4	10.7	1	264	265	0
210	42.6	10.7	1	266	267	0
211	47.7	15.4	2	268	269	0
212	299.1	6.4	0	0	0	0
213	23.4	6.4	1	0	0	0
214	297.3	5.6	0	0	0	0
215	35.9	7.7	1	0	0	0
216	43.3	7.1	1	0	0	0
217	44.5	13.7	2	270	271	0
218	72.4	15.0	2	272	273	0
219	58.8	13.6	2	274	275	0
220	9.6	13.4	2	276	277	0
221	55.8	52.0	4	278	279	0
222	45.8	10.7	1	280	281	282
223	73.9	15.4	2	283	284	0

224	12.2	14.4	2	285	286	0
225	56.4	21.5	3	287	288	0
226	271.2	5.7	0	0	0	0
227	46.0	6.7	1	0	0	0
228	94.9	15.4	2	289	290	291
229	70.3	15.4	2	292	293	0
230	149.6	7.0	0	0	0	0
231	51.5	10.7	1	294	295	0
232	263.0	6.8	0	0	0	0
233	55.6	10.7	1	296	297	0
234	121.1	10.1	1	0	0	0
235	23.9	15.4	2	298	299	300
236	48.5	10.7	1	301	302	0
237	89.1	10.7	1	303	304	0
238	180.5	4.6	0	0	0	0
239	23.7	7.3	1	0	0	0
240	317.8	7.5	0	0	0	0
241	128.1	10.4	1	0	0	0
242	210.2	6.1	0	0	0	0
243	8.1	10.7	1	305	306	0
244	159.8	5.8	0	0	0	0
245	31.3	10.7	1	307	308	0
246	145.7	5.7	0	0	0	0
247	33.2	10.7	1	0	0	0
248	176.1	6.2	0	0	0	0
249	46.3	10.7	1	309	310	0
250	181.9	4.6	0	0	0	0
251	51.9	8.4	1	0	0	0
252	235.7	5.7	0	0	0	0
253	106.5	10.7	1	0	0	0
254	302.4	5.9	0	0	0	0
255	64.9	10.7	1	311	312	0
256	183.2	7.6	0	0	0	0
257	34.1	10.7	1	313	314	0
258	335.3	7.7	0	0	0	0
259	45.2	9.9	1	0	0	0
260	308.9	5.8	0	0	0	0
261	98.5	10.7	1	0	0	0

262	185.6	6.8	0	0	0	0
263	13.8	10.7	1	315	316	0
264	310.4	5.7	0	0	0	0
265	39.4	10.7	1	317	318	0
266	267.5	5.1	0	0	0	0
267	154.6	10.1	1	0	0	0
268	40.9	10.7	1	319	320	0
269	211.7	6.1	0	0	0	0
270	183.3	9.1	0	0	0	0
271	95.7	9.4	1	0	0	0
272	35.0	10.7	1	321	322	0
273	78.8	8.0	1	0	0	0
274	31.1	6.4	1	0	0	0
275	19.1	6.4	1	0	0	0
276	288.8	6.2	0	0	0	0
277	71.6	10.7	1	323	324	0
278	126.2	15.4	2	325	326	0
279	104.2	22.7	3	327	328	0
280	115.7	10.7	1	329	330	0
281	305.3	5.8	0	0	0	0
282	98.2	10.7	1	331	332	0
283	34.3	7.5	1	0	0	0
284	145.6	5.1	0	0	0	0
285	61.3	10.7	1	333	334	0
286	96.6	10.7	1	335	336	0
287	72.2	15.4	2	337	338	0
288	38.7	12.8	2	339	340	0
289	56.1	10.7	1	341	342	0
290	58.1	8.3	1	0	0	0
291	123.7	9.9	1	0	0	0
292	473.9	5.4	0	0	0	0
293	112.3	10.7	1	343	344	0
294	303.2	6.7	0	0	0	0
295	83.3	10.7	1	345	346	0
296	190.8	4.5	0	0	0	0
297	46.4	10.7	1	347	348	0
298	96.8	9.8	1	0	0	0
299	478.9	6.6	0	0	0	0

300	15.1	10.7	1	349	350	0
301	172.5	6.0	0	0	0	0
302	25.9	6.4	1	0	0	0
303	313.3	4.8	0	0	0	0
304	16.0	6.4	1	0	0	0
305	315.7	6.5	0	0	0	0
306	47.1	8.4	1	0	0	0
307	290.6	6.5	0	0	0	0
308	108.5	10.6	1	0	0	0
309	460.7	4.9	0	0	0	0
310	74.5	10.7	1	0	0	0
311	141.5	5.7	0	0	0	0
312	142.0	10.7	1	351	352	0
313	325.1	7.1	0	0	0	0
314	97.5	10.7	1	353	354	0
315	265.9	4.3	0	0	0	0
316	57.3	8.4	1	0	0	0
317	207.9	5.4	0	0	0	0
318	13.0	6.4	1	0	0	0
319	369.5	6.2	0	0	0	0
320	8.9	10.7	1	355	356	0
321	219.9	7.9	0	0	0	0
322	26.9	10.5	1	357	358	0
323	189.9	7.0	0	0	0	0
324	106.8	8.7	1	0	0	0
325	45.1	6.9	1	0	0	0
326	17.2	14.4	2	359	360	0
327	68.6	10.7	1	361	362	0
328	13.9	15.4	2	363	364	0
329	232.7	6.8	0	0	0	0
330	65.2	10.4	1	0	0	0
331	131.9	3.6	0	0	0	0
332	46.8	10.7	1	365	366	0
333	61.7	8.3	1	0	0	0
334	126.4	10.7	1	367	368	0
335	250.1	7.4	0	0	0	0
336	126.1	10.7	1	369	370	0
337	196.2	6.3	0	0	0	0

338	103.2	14.0	2	371	372	0
339	13.9	5.4	1	0	0	0
340	97.8	9.2	1	0	0	0
341	290.4	5.3	0	0	0	0
342	46.9	10.7	1	373	374	0
343	169.7	6.3	0	0	0	0
344	109.7	10.4	1	0	0	0
345	389.8	6.9	0	0	0	0
346	31.7	10.7	1	0	0	0
347	205.8	6.0	0	0	0	0
348	65.9	10.7	1	375	376	0
349	296.4	7.4	0	0	0	0
350	26.0	6.5	1	0	0	0
351	271.5	7.2	0	0	0	0
352	16.5	10.7	1	0	0	0
353	331.4	7.5	0	0	0	0
354	8.3	10.7	1	0	0	0
355	320.4	4.6	0	0	0	0
356	139.3	10.3	1	0	0	0
357	217.3	5.5	0	0	0	0
358	9.4	5.4	1	0	0	0
359	74.8	7.9	1	0	0	0
360	66.4	10.7	1	377	378	0
361	260.9	7.6	0	0	0	0
362	118.2	10.7	1	379	380	0
363	217.7	6.4	0	0	0	0
364	66.8	13.4	2	381	382	0
365	275.1	7.9	0	0	0	0
366	25.8	10.0	1	0	0	0
367	166.9	4.6	0	0	0	0
368	34.3	10.7	1	383	384	0
369	242.4	5.5	0	0	0	0
370	34.7	10.7	1	385	386	0
371	48.3	8.1	1	0	0	0
372	92.5	10.5	1	0	0	0
373	112.2	5.0	0	0	0	0
374	4.0	5.4	1	0	0	0
375	169.6	4.0	0	0	0	0

376	60.7	9.9	1	0	0	0
377	359.7	6.3	0	0	0	0
378	60.8	10.7	1	387	388	0
379	163.8	5.9	0	0	0	0
380	78.7	10.7	1	389	390	0
381	258.4	7.9	0	0	0	0
382	17.3	10.7	1	391	392	0
383	219.0	7.2	0	0	0	0
384	57.3	10.7	1	0	0	0
385	356.5	4.9	0	0	0	0
386	78.5	10.7	1	393	394	0
387	243.6	5.5	0	0	0	0
388	61.2	10.7	1	395	396	0
389	185.2	7.3	0	0	0	0
390	27.9	10.7	1	0	0	0
391	241.6	6.2	0	0	0	0
392	12.9	10.7	1	397	398	0
393	349.9	7.1	0	0	0	0
394	18.6	10.7	1	0	0	0
395	293.3	6.0	0	0	0	0
396	60.0	10.7	1	0	0	0
397	122.8	7.1	0	0	0	0
398	27.4	10.7	1	399	400	0
399	231.6	6.1	0	0	0	0
400	125.0	8.9	1	0	0	0

The last three columns represent vessel's daughters whose number is the vessel number given by the first column. A zero value represents that there is no daughter vessel. This vessel connectivity is used to generate the conductivity matrix for flow solution.