

**Supplementary Information for
Functional Geometry of Human Connectomes**

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TABLE SI-I: Components of the first (FSV), second (SSV) and third (TSV) structure vectors against the topology levels q for the consensus Male and Female connectomes at 1000K fibres launched.

q	Male			Female		
	FSV	SSV	TSV	FSV	SSV	TSV
0	91	2000	0.954	45	2893	0.984
1	59	1910	0.969	33	2849	0.988
2	66	1852	0.964	33	2817	0.988
3	114	1789	0.936	62	2785	0.977
4	222	1678	0.867	91	2726	0.966
5	314	1464	0.785	118	2636	0.956
6	339	1173	0.710	199	2522	0.921
7	298	854	0.651	219	2329	0.905
8	277	587	0.528	356	2121	0.832
9	140	337	0.584	420	1782	0.764
10	110	213	0.483	353	1378	0.743
11	83	114	0.271	359	1048	0.657
12	35	39	0.102	336	712	0.528
13	6	6	0.0	183	410	0.553
14	-	-	-	126	251	0.498
15	-	-	-	70	134	0.477
16	-	-	-	49	68	0.279
17	-	-	-	19	25	0.240
18	-	-	-	8	10	0.200
19	-	-	-	4	4	0.0
20	-	-	-	1	1	0.0

1. FIG. SI-1: WEIGHTS OF EDGES

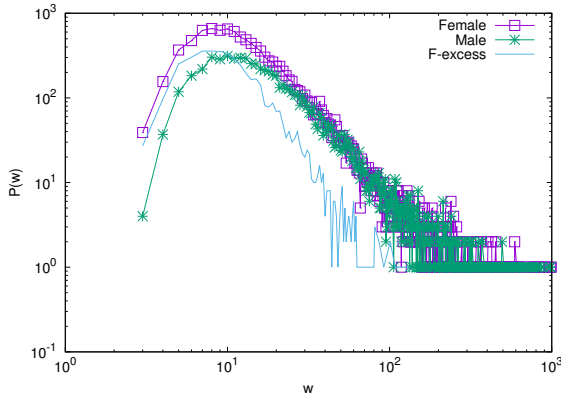


FIG. SI-1: Histogram of the weights of the edges in the F-connectome, the M-connectome and in the F-excess1195 subgraph.

2. TABLES SI-I,II: STRUCTURE VECTORS FOR THE F- AND M-CONNECTOMES AT 1000K FIBRES

Table-SI-I (structure vectors at 1000K) and Table-SI-II (some properties of SV at different N_F).

TABLE SI-II: For different numbers of launched fibers N_F , some properties of the structure vectors: $Q_{q=0}^\kappa$ —the number of graph fragments; q_{max}^κ —the order of the largest clique in the graph (the number of cliques of that order is given in the brackets); $\hat{Q}_{q_{max}-1}^\kappa$ —the degree of connectivity at the level below the q_{max} , where $\kappa \in M, F$ indicating the M- or F-connectome.

N_F	$Q_{q=0}^M$	$Q_{q=0}^F$	q_{max}^M	q_{max}^F	$\hat{Q}_{q_{max}-1}^M$	$\hat{Q}_{q_{max}-1}^F$
20000	604	446	5(6)	6(8)	0.154	0.185
200000	203	109	11(3)	14(2)	0.250	0.125
1000000	91	45	13(6)	20(1)	0.103	0.00

3. LIST L-I: VERTICES FORMING SIX 14-CLIQUE IN HUMAN CONNECTOME AT 1000K AND FIG.SI-2

Names of the brain regions belonging to six largest cliques in the human connectome common to F&M-connectome. The 16 vertices in the right hemisphere and, similarly, the 16 vertices in the left hemisphere share three cliques of the order 13. Their mutual connections as directed weighted edges are shown in Fig. SI-2.

52 "rh.rostralmiddlefrontal_19"
 53 "rh.rostralmiddlefrontal_21"
 56 "rh.rostralmiddlefrontal_24"
 57 "rh.rostralmiddlefrontal_10"
 58 "rh.rostralmiddlefrontal_20"
 60 "rh.rostralmiddlefrontal_18"
 63 "rh.rostralmiddlefrontal_23"
 94 "rh.superiorfrontal_11"
 128 "rh.caudalmiddlefrontal_10"
 129 "rh.caudalmiddlefrontal_1"
 131 "rh.caudalmiddlefrontal_6"
 503 "Right-Caudate"
 504 "Right-Putamen"
 70 "rh.rostralmiddlefrontal_2"
 495 "rh.insula_1"
 517 "lh.lateralorbitofrontal_10"
 523 "lh.lateralorbitofrontal_1"
 533 "lh.medialorbitofrontal_4"
 534 "lh.medialorbitofrontal_5"

545 "lh.parstriangularis_6"
 546 "lh.parstriangularis_2"
 567 "lh.rostralmiddlefrontal_26"
 573 "lh.rostralmiddlefrontal_23"
 578 "lh.rostralmiddlefrontal_7"
 580 "lh.rostralmiddlefrontal_3"
 585 "lh.superiorfrontal_32"
 690 "lh.rostralanteriorcingulate_3"
 1009 "Left-Caudate"
 1010 "Left-Putamen"
 689 "lh.rostralanteriorcingulate_4"
 583 "lh.rostralmiddlefrontal_1"

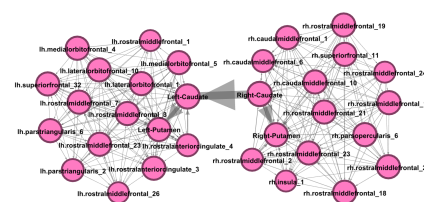


FIG. SI-2: Patterns of 239 directed weighted connections in the largest simplicial complex containing six 14-cliques in the common F&M-connectome at 1000K.

4. LIST L-II: THE EXCESS EDGES WITH LARGE WEIGHTS IN THE F-CONNECTOME

The listed edges have weights $w > 18$, i.e., in the tale of the weight distribution for F-excess, cf. Fig. SI-1).

203 "rh.isthmuscingulate_5" 503 "Right-Caudate"
 205 "rh.postcentral_24" 237 "rh.supramarginal_11"
 205 "rh.postcentral_24" 238 "rh.supramarginal_13"
 205 "rh.postcentral_24" 254 "rh.supramarginal_17"
 210 "rh.postcentral_11" 504 "Right-Putamen"
 213 "rh.postcentral_27" 237 "rh.supramarginal_11"
 213 "rh.postcentral_27" 502 "Right-Thalamus-Proper"
 216 "rh.postcentral_9" 503 "Right-Caudate"
 218 "rh.postcentral_30" 255 "rh.superiorparietal_13"
 218 "rh.postcentral_30" 488 "rh.insula_6"
 218 "rh.postcentral_30" 502 "Right-Thalamus-Proper"
 223 "rh.postcentral_29" 502 "Right-Thalamus-Proper"
 223 "rh.postcentral_29" 505 "Right-Pallidum"
 226 "rh.postcentral_14" 502 "Right-Thalamus-Proper"
 228 "rh.postcentral_21" 502 "Right-Thalamus-Proper"
 228 "rh.postcentral_21" 503 "Right-Caudate"
 229 "rh.postcentral_8" 237 "rh.supramarginal_11"
 229 "rh.postcentral_8" 254 "rh.supramarginal_17"
 229 "rh.postcentral_8" 503 "Right-Caudate"
 235 "rh.supramarginal_19" 246 "rh.supramarginal_14"
 235 "rh.supramarginal_19" 505 "Right-Pallidum"
 238 "rh.supramarginal_13" 502 "Right-Thalamus-Proper"

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241 "rh.supramarginal_8" 285 "rh.inferiorparietal_21"
244 "rh.supramarginal_9" 502 "Right-Thalamus-Proper"
244 "rh.supramarginal_9" 503 "Right-Caudate"
246 "rh.supramarginal_14" 284 "rh.inferiorparietal_13"
249 "rh.supramarginal_6" 257 "rh.superiorparietal_18"
249 "rh.supramarginal_6" 269 "rh.superiorparietal_22"
249 "rh.supramarginal_6" 285 "rh.inferiorparietal_21"
249 "rh.supramarginal_6" 327 "rh.precuneus_4"
249 "rh.supramarginal_6" 503 "Right-Caudate"
250 "rh.supramarginal_12" 284 "rh.inferiorparietal_13"
250 "rh.supramarginal_12" 328 "rh.precuneus_5"
251 "rh.supramarginal_1" 502 "Right-Thalamus-Proper"
251 "rh.supramarginal_1" 503 "Right-Caudate"
251 "rh.supramarginal_1" 504 "Right-Putamen"
252 "rh.supramarginal_7" 502 "Right-Thalamus-Proper"
253 "rh.supramarginal_5" 507 "Right-Hippocampus"
254 "rh.supramarginal_17" 257 "rh.superiorparietal_18"
254 "rh.supramarginal_17" 276 "rh.superiorparietal_11"
254 "rh.supramarginal_17" 326 "rh.precuneus_20"
255 "rh.superiorparietal_13" 276 "rh.superiorparietal_11"
255 "rh.superiorparietal_13" 315 "rh.precuneus_10"
255 "rh.superiorparietal_13" 329 "rh.precuneus_23"
255 "rh.superiorparietal_13" 505 "Right-Pallidum"
256 "rh.superiorparietal_24" 319 "rh.precuneus_9"
256 "rh.superiorparietal_24" 455 "rh.bankssts_1"
256 "rh.superiorparietal_24" 503 "Right-Caudate"
261 "rh.superiorparietal_12" 327 "rh.precuneus_4"
265 "rh.superiorparietal_17" 329 "rh.precuneus_23"
266 "rh.superiorparietal_7" 327 "rh.precuneus_4"
267 "rh.superiorparietal_20" 325 "rh.precuneus_8"
269 "rh.superiorparietal_22" 301 "rh.inferiorparietal_18"
269 "rh.superiorparietal_22" 504 "Right-Putamen"
270 "rh.superiorparietal_9" 301 "rh.inferiorparietal_18"
270 "rh.superiorparietal_9" 313 "rh.precuneus_6"
275 "rh.superiorparietal_14" 301 "rh.inferiorparietal_18"
275 "rh.superiorparietal_14" 329 "rh.precuneus_23"
275 "rh.superiorparietal_14" 504 "Right-Putamen"
276 "rh.superiorparietal_11" 290 "rh.inferiorparietal_12"
276 "rh.superiorparietal_11" 301 "rh.inferiorparietal_18"
276 "rh.superiorparietal_11" 486 "rh.insula_16"
276 "rh.superiorparietal_11" 504 "Right-Putamen"
278 "rh.superiorparietal_19" 311 "rh.precuneus_1"
279 "rh.superiorparietal_6" 311 "rh.precuneus_1"
282 "rh.superiorparietal_3" 385 "rh.lingual_6"
284 "rh.inferiorparietal_13" 299 "rh.inferiorparietal_14"
284 "rh.inferiorparietal_13" 303 "rh.inferiorparietal_20"
284 "rh.inferiorparietal_13" 311 "rh.precuneus_1"
284 "rh.inferiorparietal_13" 315 "rh.precuneus_10"
284 "rh.inferiorparietal_13" 326 "rh.precuneus_20"
284 "rh.inferiorparietal_13" 327 "rh.precuneus_4"
284 "rh.inferiorparietal_13" 385 "rh.lingual_6"
284 "rh.inferiorparietal_13" 455 "rh.bankssts_1"
284 "rh.inferiorparietal_13" 485 "rh.transversetemporal_3"
284 "rh.inferiorparietal_13" 490 "rh.insula_5"
284 "rh.inferiorparietal_13" 504 "Right-Putamen"
285 "rh.inferiorparietal_21" 289 "rh.inferiorparietal_25"

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285 "rh.inferiorparietal_21" 312 "rh.precuneus_3"
 285 "rh.inferiorparietal_21" 313 "rh.precuneus_6"
 285 "rh.inferiorparietal_21" 316 "rh.precuneus_16"
 285 "rh.inferiorparietal_21" 486 "rh.insula_16"
 285 "rh.inferiorparietal_21" 504 "Right-Putamen"
 290 "rh.inferiorparietal_12" 294 "rh.inferiorparietal_2"
 291 "rh.inferiorparietal_8" 293 "rh.inferiorparietal_26"
 291 "rh.inferiorparietal_8" 297 "rh.inferiorparietal_1"
 295 "rh.inferiorparietal_17" 301 "rh.inferiorparietal_18"
 295 "rh.inferiorparietal_17" 385 "rh.lingual_6"
 295 "rh.inferiorparietal_17" 486 "rh.insula_16"
 295 "rh.inferiorparietal_17" 490 "rh.insula_5"
 295 "rh.inferiorparietal_17" 504 "Right-Putamen"
 299 "rh.inferiorparietal_14" 311 "rh.precuneus_1"
 299 "rh.inferiorparietal_14" 504 "Right-Putamen"
 300 "rh.inferiorparietal_9" 308 "rh.inferiorparietal_15"
 301 "rh.inferiorparietal_18" 326 "rh.precuneus_20"
 301 "rh.inferiorparietal_18" 388 "rh.lingual_5"
 301 "rh.inferiorparietal_18" 397 "rh.fusiform_15"
 301 "rh.inferiorparietal_18" 407 "rh.parahippocampal_2"
 301 "rh.inferiorparietal_18" 486 "rh.insula_16"
 302 "rh.inferiorparietal_10" 467 "rh.superiortemporal_21"
 302 "rh.inferiorparietal_10" 473 "rh.superiortemporal_11"
 303 "rh.inferiorparietal_20" 341 "rh.pericalcarine_1"
 303 "rh.inferiorparietal_20" 504 "Right-Putamen"
 304 "rh.inferiorparietal_22" 311 "rh.precuneus_1"
 308 "rh.inferiorparietal_15" 390 "rh.fusiform_2"
 308 "rh.inferiorparietal_15" 486 "rh.insula_16"
 309 "rh.inferiorparietal_24" 313 "rh.precuneus_6"
 309 "rh.inferiorparietal_24" 342 "rh.pericalcarine_5"
 313 "rh.precuneus_6" 359 "rh.lateraloccipital_3"
 328 "rh.precuneus_5" 504 "Right-Putamen"
 342 "rh.pericalcarine_5" 349 "rh.lateraloccipital_18"
 342 "rh.pericalcarine_5" 356 "rh.lateraloccipital_16"
 345 "rh.pericalcarine_2" 362 "rh.lateraloccipital_21"
 356 "rh.lateraloccipital_16" 363 "rh.lateraloccipital_10"
 357 "rh.lateraloccipital_23" 385 "rh.lingual_6"
 358 "rh.lateraloccipital_7" 381 "rh.lingual_3"
 365 "rh.lateraloccipital_4" 369 "rh.lateraloccipital_5"
 366 "rh.lateraloccipital_19" 369 "rh.lateraloccipital_5"
 385 "rh.lingual_6" 455 "rh.bankssts_1"
 388 "rh.lingual_5" 433 "rh.middletemporal_12"
 388 "rh.lingual_5" 455 "rh.bankssts_1"
 396 "rh.fusiform_17" 455 "rh.bankssts_1"
 401 "rh.fusiform_4" 432 "rh.inferiortemporal_13"
 401 "rh.fusiform_4" 433 "rh.middletemporal_12"
 410 "rh.parahippocampal_5" 502 "Right-Thalamus-Proper"
 419 "rh.inferiortemporal_5" 454 "rh.bankssts_2"
 425 "rh.inferiortemporal_7" 432 "rh.inferiortemporal_13"
 425 "rh.inferiortemporal_7" 434 "rh.middletemporal_16"
 433 "rh.middletemporal_12" 440 "rh.middletemporal_4"
 433 "rh.middletemporal_12" 467 "rh.superiortemporal_21"
 433 "rh.middletemporal_12" 473 "rh.superiortemporal_11"
 445 "rh.middletemporal_9" 454 "rh.bankssts_2"
 449 "rh.middletemporal_19" 454 "rh.bankssts_2"
 450 "rh.middletemporal_2" 454 "rh.bankssts_2"

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451 "rh.middletemporal_18" 467 "rh.superiortemporal_21"
451 "rh.middletemporal_18" 468 "rh.superiortemporal_24"
454 "rh.bankssts_2" 490 "rh.insula_5"
455 "rh.bankssts_1" 504 "Right-Putamen"
467 "rh.superiortemporal_21" 477 "rh.superiortemporal_8"
467 "rh.superiortemporal_21" 480 "rh.superiortemporal_20"
477 "rh.superiortemporal_8" 507 "Right-Hippocampus"
497 "rh.insula_14" 507 "Right-Hippocampus"
498 "rh.insula_3" 502 "Right-Thalamus-Proper"
500 "rh.insula_12" 507 "Right-Hippocampus"
502 "Right-Thalamus-Proper" 706 "lh.posteriorcingulate_1"
503 "Right-Caudate" 697 "lh.caudalanteriorcingulate_3"
504 "Right-Putamen" 1009 "Left-Caudate"
524 "lh.lateralorbitofrontal_15" 1009 "Left-Caudate"
545 "lh.parstriangularis_6" 572 "lh.rostralmiddlefrontal_21"
545 "lh.parstriangularis_6" 584 "lh.superiorfrontal_11"
545 "lh.parstriangularis_6" 586 "lh.superiorfrontal_8"
548 "lh.parsopercularis_6" 1013 "Left-Hippocampus"
552 "lh.parsopercularis_8" 560 "lh.rostralmiddlefrontal_13"
552 "lh.parsopercularis_8" 693 "lh.caudalanteriorcingulate_5"
552 "lh.parsopercularis_8" 1011 "Left-Pallidum"
555 "lh.parsopercularis_3" 1009 "Left-Caudate"
558 "lh.rostralmiddlefrontal_17" 629 "lh.caudalmiddlefrontal_9"
562 "lh.rostralmiddlefrontal_19" 637 "lh.caudalmiddlefrontal_4"
566 "lh.rostralmiddlefrontal_4" 571 "lh.rostralmiddlefrontal_10"
566 "lh.rostralmiddlefrontal_4" 601 "lh.superiorfrontal_21"
566 "lh.rostralmiddlefrontal_4" 637 "lh.caudalmiddlefrontal_4"
567 "lh.rostralmiddlefrontal_26" 590 "lh.superiorfrontal_35"
591 "lh.superiorfrontal_42" 595 "lh.superiorfrontal_9"
591 "lh.superiorfrontal_42" 615 "lh.superiorfrontal_18"
596 "lh.superiorfrontal_1" 613 "lh.superiorfrontal_7"
596 "lh.superiorfrontal_1" 616 "lh.superiorfrontal_34"
597 "lh.superiorfrontal_38" 686 "lh.paracentral_5"
598 "lh.superiorfrontal_45" 615 "lh.superiorfrontal_18"
601 "lh.superiorfrontal_21" 695 "lh.caudalanteriorcingulate_1"
602 "lh.superiorfrontal_29" 694 "lh.caudalanteriorcingulate_4"
603 "lh.superiorfrontal_44" 651 "lh.precentral_21"
603 "lh.superiorfrontal_44" 687 "lh.paracentral_11"
603 "lh.superiorfrontal_44" 696 "lh.caudalanteriorcingulate_2"
604 "lh.superiorfrontal_19" 1009 "Left-Caudate"
605 "lh.superiorfrontal_30" 607 "lh.superiorfrontal_22"
607 "lh.superiorfrontal_22" 611 "lh.superiorfrontal_40"
607 "lh.superiorfrontal_22" 686 "lh.paracentral_5"
608 "lh.superiorfrontal_27" 644 "lh.precentral_12"
609 "lh.superiorfrontal_20" 686 "lh.paracentral_5"
612 "lh.superiorfrontal_36" 695 "lh.caudalanteriorcingulate_1"
612 "lh.superiorfrontal_36" 1009 "Left-Caudate"
613 "lh.superiorfrontal_7" 632 "lh.caudalmiddlefrontal_13"
613 "lh.superiorfrontal_7" 697 "lh.caudalanteriorcingulate_3"
616 "lh.superiorfrontal_34" 1009 "Left-Caudate"
618 "lh.superiorfrontal_3" 625 "lh.superiorfrontal_6"
618 "lh.superiorfrontal_3" 685 "lh.paracentral_6"
622 "lh.superiorfrontal_15" 1009 "Left-Caudate"
623 "lh.superiorfrontal_43" 683 "lh.paracentral_3"
623 "lh.superiorfrontal_43" 687 "lh.paracentral_11"
624 "lh.superiorfrontal_26" 662 "lh.precentral_25"

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624 "lh.superiorfrontal_26" 686 "lh.paracentral_5"
628 "lh.superiorfrontal_41" 683 "lh.paracentral_3"
629 "lh.caudalmiddlefrontal_9" 651 "lh.precentral_21"
629 "lh.caudalmiddlefrontal_9" 657 "lh.precentral_4"
629 "lh.caudalmiddlefrontal_9" 661 "lh.precentral_6"
632 "lh.caudalmiddlefrontal_13" 694 "lh.caudalanteriorcingulate_4"
632 "lh.caudalmiddlefrontal_13" 698 "lh.posteriorcingulate_5"
632 "lh.caudalmiddlefrontal_13" 699 "lh.posteriorcingulate_4"
632 "lh.caudalmiddlefrontal_13" 1013 "Left-Hippocampus"
633 "lh.caudalmiddlefrontal_5" 731 "lh.postcentral_31"
633 "lh.caudalmiddlefrontal_5" 769 "lh.superiorparietal_27"
633 "lh.caudalmiddlefrontal_5" 770 "lh.superiorparietal_25"
636 "lh.caudalmiddlefrontal_11" 641 "lh.caudalmiddlefrontal_10"
636 "lh.caudalmiddlefrontal_11" 1009 "Left-Caudate"
637 "lh.caudalmiddlefrontal_4" 658 "lh.precentral_13"
637 "lh.caudalmiddlefrontal_4" 662 "lh.precentral_25"
641 "lh.caudalmiddlefrontal_10" 697 "lh.caudalanteriorcingulate_3"
645 "lh.precentral_17" 686 "lh.paracentral_5"
647 "lh.precentral_33" 661 "lh.precentral_6"
647 "lh.precentral_33" 731 "lh.postcentral_31"
647 "lh.precentral_33" 755 "lh.supramarginal_17"
647 "lh.precentral_33" 757 "lh.supramarginal_16"
650 "lh.precentral_26" 662 "lh.precentral_25"
650 "lh.precentral_26" 681 "lh.paracentral_10"
651 "lh.precentral_21" 666 "lh.precentral_11"
651 "lh.precentral_21" 668 "lh.precentral_8"
651 "lh.precentral_21" 669 "lh.precentral_15"
651 "lh.precentral_21" 720 "lh.postcentral_18"
651 "lh.precentral_21" 768 "lh.superiorparietal_20"
651 "lh.precentral_21" 769 "lh.superiorparietal_27"
651 "lh.precentral_21" 770 "lh.superiorparietal_25"
651 "lh.precentral_21" 820 "lh.precuneus_10"
652 "lh.precentral_10" 1008 "Left-Thalamus-Proper"
654 "lh.precentral_16" 770 "lh.superiorparietal_25"
654 "lh.precentral_16" 771 "lh.superiorparietal_13"
657 "lh.precentral_4" 769 "lh.superiorparietal_27"
657 "lh.precentral_4" 770 "lh.superiorparietal_25"
664 "lh.precentral_20" 1010 "Left-Putamen"
665 "lh.precentral_29" 1008 "Left-Thalamus-Proper"
669 "lh.precentral_15" 699 "lh.posteriorcingulate_4"
669 "lh.precentral_15" 758 "lh.supramarginal_15"
669 "lh.precentral_15" 770 "lh.superiorparietal_25"
669 "lh.precentral_15" 1013 "Left-Hippocampus"
675 "lh.precentral_28" 757 "lh.supramarginal_16"
676 "lh.precentral_23" 756 "lh.supramarginal_4"
676 "lh.precentral_23" 758 "lh.supramarginal_15"
687 "lh.paracentral_11" 757 "lh.supramarginal_16"
691 "lh.rostralanteriorcingulate_2" 698 "lh.posteriorcingulate_5"
691 "lh.rostralanteriorcingulate_2" 1005 "lh.insula_7"
692 "lh.rostralanteriorcingulate_5" 1005 "lh.insula_7"
697 "lh.caudalanteriorcingulate_3" 705 "lh.posteriorcingulate_7"
697 "lh.caudalanteriorcingulate_3" 706 "lh.posteriorcingulate_1"
697 "lh.caudalanteriorcingulate_3" 709 "lh.isthmuscingulate_7"
703 "lh.posteriorcingulate_6" 755 "lh.supramarginal_17"
706 "lh.posteriorcingulate_1" 1013 "Left-Hippocampus"
707 "lh.isthmuscingulate_4" 712 "lh.isthmuscingulate_2"

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707 "lh.isthmuscingulate_4" 769 "lh.superiorparietal_27"
708 "lh.isthmuscingulate_6" 713 "lh.isthmuscingulate_3"
708 "lh.isthmuscingulate_6" 769 "lh.superiorparietal_27"
708 "lh.isthmuscingulate_6" 770 "lh.superiorparietal_25"
709 "lh.isthmuscingulate_7" 768 "lh.superiorparietal_20"
709 "lh.isthmuscingulate_7" 776 "lh.superiorparietal_19"
709 "lh.isthmuscingulate_7" 836 "lh.precuneus_9"
710 "lh.isthmuscingulate_1" 770 "lh.superiorparietal_25"
711 "lh.isthmuscingulate_5" 1009 "Left-Caudate"
712 "lh.isthmuscingulate_2" 1009 "Left-Caudate"
718 "lh.postcentral_14" 1008 "Left-Thalamus-Proper"
720 "lh.postcentral_18" 991 "lh.insula_5"
720 "lh.postcentral_18" 1008 "Left-Thalamus-Proper"
720 "lh.postcentral_18" 1009 "Left-Caudate"
726 "lh.postcentral_30" 992 "lh.insula_2"
726 "lh.postcentral_30" 1008 "Left-Thalamus-Proper"
730 "lh.postcentral_8" 991 "lh.insula_5"
730 "lh.postcentral_8" 1008 "Left-Thalamus-Proper"
731 "lh.postcentral_31" 758 "lh.supramarginal_15"
731 "lh.postcentral_31" 770 "lh.superiorparietal_25"
738 "lh.postcentral_10" 1008 "Left-Thalamus-Proper"
738 "lh.postcentral_10" 1009 "Left-Caudate"
738 "lh.postcentral_10" 1011 "Left-Pallidum"
742 "lh.postcentral_19" 755 "lh.supramarginal_17"
746 "lh.supramarginal_7" 1008 "Left-Thalamus-Proper"
747 "lh.supramarginal_5" 1008 "Left-Thalamus-Proper"
749 "lh.supramarginal_13" 1009 "Left-Caudate"
750 "lh.supramarginal_2" 768 "lh.superiorparietal_20"
750 "lh.supramarginal_2" 774 "lh.superiorparietal_15"
750 "lh.supramarginal_2" 779 "lh.superiorparietal_16"
750 "lh.supramarginal_2" 1003 "lh.insula_15"
750 "lh.supramarginal_2" 1004 "lh.insula_4"
751 "lh.supramarginal_3" 1009 "Left-Caudate"
755 "lh.supramarginal_17" 1011 "Left-Pallidum"
756 "lh.supramarginal_4" 1008 "Left-Thalamus-Proper"
757 "lh.supramarginal_16" 997 "lh.insula_14"
757 "lh.supramarginal_16" 1011 "Left-Pallidum"
758 "lh.supramarginal_15" 1010 "Left-Putamen"
767 "lh.superiorparietal_24" 1011 "Left-Pallidum"
768 "lh.superiorparietal_20" 1008 "Left-Thalamus-Proper"
768 "lh.superiorparietal_20" 1009 "Left-Caudate"
769 "lh.superiorparietal_27" 832 "lh.precuneus_6"
769 "lh.superiorparietal_27" 1011 "Left-Pallidum"
770 "lh.superiorparietal_25" 776 "lh.superiorparietal_19"
770 "lh.superiorparietal_25" 796 "lh.inferiorparietal_16"
770 "lh.superiorparietal_25" 993 "lh.insula_16"
770 "lh.superiorparietal_25" 1011 "Left-Pallidum"
771 "lh.superiorparietal_13" 831 "lh.precuneus_22"
771 "lh.superiorparietal_13" 965 "lh.superiortemporal_24"
771 "lh.superiorparietal_13" 1008 "Left-Thalamus-Proper"
775 "lh.superiorparietal_12" 821 "lh.precuneus_8"
775 "lh.superiorparietal_12" 822 "lh.precuneus_3"
779 "lh.superiorparietal_16" 965 "lh.superiortemporal_24"
779 "lh.superiorparietal_16" 1010 "Left-Putamen"
780 "lh.superiorparietal_11" 965 "lh.superiortemporal_24"
780 "lh.superiorparietal_11" 1010 "Left-Putamen"

4 LIST L-II: THE EXCESS EDGES WITH LARGE WEIGHTS IN THE F-CONNECTOME

781 "lh.superiorparietal_18" 820 "lh.precuneus_10"
784 "lh.superiorparietal_4" 832 "lh.precuneus_6"
785 "lh.superiorparietal_6" 1010 "Left-Putamen"
786 "lh.superiorparietal_2" 808 "lh.inferiorparietal_21"
786 "lh.superiorparietal_2" 892 "lh.lingual_7"
786 "lh.superiorparietal_2" 965 "lh.superiortemporal_24"
786 "lh.superiorparietal_2" 993 "lh.insula_16"
786 "lh.superiorparietal_2" 1010 "Left-Putamen"
790 "lh.superiorparietal_9" 849 "lh.pericalcarine_2"
794 "lh.superiorparietal_29" 849 "lh.pericalcarine_2"
796 "lh.inferiorparietal_16" 851 "lh.pericalcarine_3"
796 "lh.inferiorparietal_16" 869 "lh.lateraloccipital_21"
796 "lh.inferiorparietal_16" 870 "lh.lateraloccipital_23"
796 "lh.inferiorparietal_16" 871 "lh.lateraloccipital_5"
796 "lh.inferiorparietal_16" 875 "lh.lateraloccipital_8"
796 "lh.inferiorparietal_16" 893 "lh.fusiform_12"
796 "lh.inferiorparietal_16" 894 "lh.fusiform_7"
796 "lh.inferiorparietal_16" 1010 "Left-Putamen"
801 "lh.inferiorparietal_15" 807 "lh.inferiorparietal_17"
801 "lh.inferiorparietal_15" 888 "lh.lingual_2"
801 "lh.inferiorparietal_15" 993 "lh.insula_16"
801 "lh.inferiorparietal_15" 1010 "Left-Putamen"
801 "lh.inferiorparietal_15" 1013 "Left-Hippocampus"
805 "lh.inferiorparietal_2" 814 "lh.inferiorparietal_14"
805 "lh.inferiorparietal_2" 993 "lh.insula_16"
805 "lh.inferiorparietal_2" 1010 "Left-Putamen"
806 "lh.inferiorparietal_18" 815 "lh.inferiorparietal_1"
806 "lh.inferiorparietal_18" 889 "lh.lingual_15"
806 "lh.inferiorparietal_18" 994 "lh.insula_12"
807 "lh.inferiorparietal_17" 888 "lh.lingual_2"
807 "lh.inferiorparietal_17" 895 "lh.fusiform_17"
807 "lh.inferiorparietal_17" 994 "lh.insula_12"
808 "lh.inferiorparietal_21" 815 "lh.inferiorparietal_1"
808 "lh.inferiorparietal_21" 989 "lh.transversetemporal_3"
808 "lh.inferiorparietal_21" 990 "lh.transversetemporal_2"
808 "lh.inferiorparietal_21" 993 "lh.insula_16"
808 "lh.inferiorparietal_21" 1008 "Left-Thalamus-Proper"
808 "lh.inferiorparietal_21" 1010 "Left-Putamen"
809 "lh.inferiorparietal_12" 815 "lh.inferiorparietal_1"
809 "lh.inferiorparietal_12" 993 "lh.insula_16"
809 "lh.inferiorparietal_12" 1010 "Left-Putamen"
815 "lh.inferiorparietal_1" 965 "lh.superiortemporal_24"
815 "lh.inferiorparietal_1" 1010 "Left-Putamen"
816 "lh.inferiorparietal_20" 833 "lh.precuneus_11"
816 "lh.inferiorparietal_20" 838 "lh.precuneus_18"
816 "lh.inferiorparietal_20" 852 "lh.pericalcarine_6"
816 "lh.inferiorparietal_20" 888 "lh.lingual_2"
816 "lh.inferiorparietal_20" 892 "lh.lingual_7"
816 "lh.inferiorparietal_20" 993 "lh.insula_16"
816 "lh.inferiorparietal_20" 1008 "Left-Thalamus-Proper"
816 "lh.inferiorparietal_20" 1010 "Left-Putamen"
837 "lh.precuneus_15" 869 "lh.lateraloccipital_21"
848 "lh.pericalcarine_4" 862 "lh.lateraloccipital_12"
849 "lh.pericalcarine_2" 855 "lh.lateraloccipital_10"
850 "lh.pericalcarine_5" 863 "lh.lateraloccipital_14"
852 "lh.pericalcarine_6" 858 "lh.lateraloccipital_4"

869 "lh.lateraloccipital_21" 875 "lh.lateraloccipital_8"
 870 "lh.lateraloccipital_23" 889 "lh.lingual_15"
 870 "lh.lateraloccipital_23" 915 "lh.parahippocampal_5"
 872 "lh.lateraloccipital_17" 884 "lh.lingual_6"
 888 "lh.lingual_2" 959 "lh.bankssts_4"
 892 "lh.lingual_7" 965 "lh.superiortemporal_24"
 894 "lh.fusiform_7" 959 "lh.bankssts_4"
 901 "lh.fusiform_11" 958 "lh.bankssts_6"
 903 "lh.fusiform_16" 945 "lh.middletemporal_13"
 904 "lh.fusiform_2" 957 "lh.bankssts_2"
 906 "lh.fusiform_8" 958 "lh.bankssts_6"
 909 "lh.fusiform_13" 957 "lh.bankssts_2"
 914 "lh.parahippocampal_4" 959 "lh.bankssts_4"
 915 "lh.parahippocampal_5" 938 "lh.inferiortemporal_7"
 915 "lh.parahippocampal_5" 959 "lh.bankssts_4"
 923 "lh.inferiortemporal_15" 957 "lh.bankssts_2"
 923 "lh.inferiortemporal_15" 959 "lh.bankssts_4"
 927 "lh.inferiortemporal_5" 958 "lh.bankssts_6"
 928 "lh.inferiortemporal_8" 958 "lh.bankssts_6"
 934 "lh.inferiortemporal_3" 939 "lh.middletemporal_6"
 952 "lh.middletemporal_2" 957 "lh.bankssts_2"
 953 "lh.middletemporal_4" 1013 "Left-Hippocampus"
 957 "lh.bankssts_2" 994 "lh.insula_12"
 958 "lh.bankssts_6" 1013 "Left-Hippocampus"
 959 "lh.bankssts_4" 989 "lh.transversetemporal_3"
 959 "lh.bankssts_4" 1010 "Left-Putamen"
 970 "lh.superiortemporal_25" 989 "lh.transversetemporal_3"
 981 "lh.superiortemporal_10" 1013 "Left-Hippocampus"
 1007 "lh.insula_17" 1013 "Left-Hippocampus"

**5. FIG. SI-3: THE COMPLETE SUBGRAPH
F-EXCESS1195**

4 LIST L-II: THE EXCESS EDGES WITH LARGE WEIGHTS IN THE F-CONNECTOME

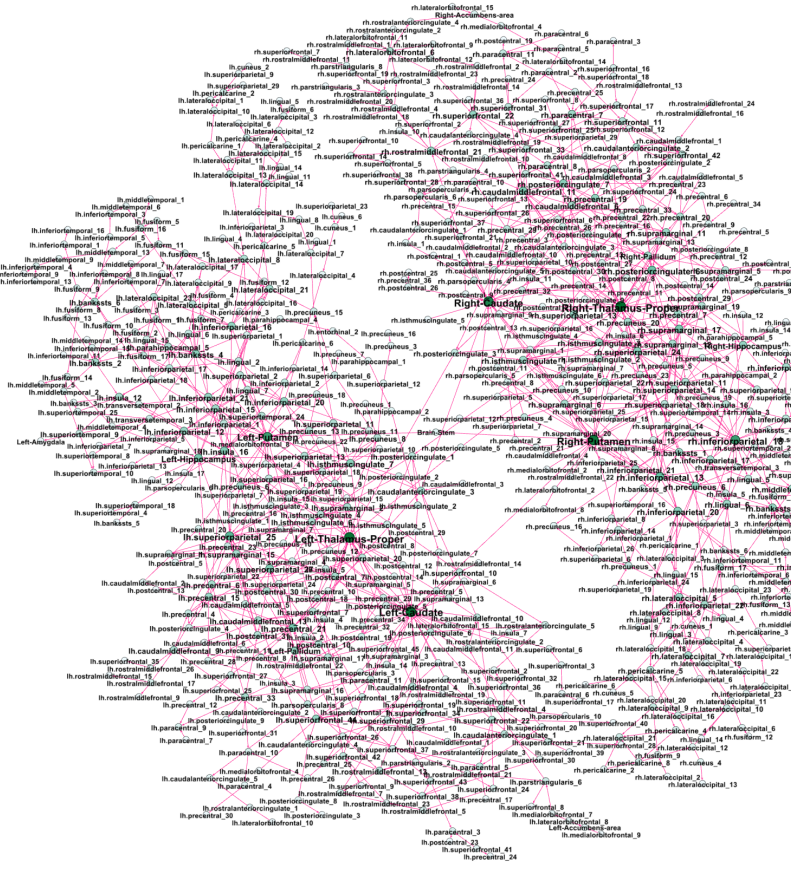


FIG. SI-3: The structure of the subgraph F-excess1195 consisting of the 1195 excess edges in the F-connectome.