Supplementary Material for *Bioinformatics analysis of experimentally determined protein complexes in yeast, S. cerevisiae* **by Dezso** *et al.*

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I. Detailed characterization of the complexes reported by Gavin *et al.*

I(a). List of complexes with their predicted characteristics

The functional, phenotypic and localization based homogenity of the core allows us to make specific predictions regarding the deletion phenotype, functional role and the cellular localisation of the complexes uncovered by Gavin *et al.* This table offers a summary of these predictions, by showing each complex, in the order as they were presented in the Supplementary Material of Gavin *et al.*, together with their precited characteristics. For each complex we show in the first column the complex number, as given in Gavin *et al.*, followed by the bait used in the experiments to find the complex. The third column indicates the predicted essentiality of the complex, with the percentage of the core proteins with known deletion phenotype that lead to our prediction. That is, an 80% essentiality means that 80% of the core proteins are known to be essential. The fourth and fifth columns give the predicted functional classification and cellular localization for each complex, together with the percentage of the core proteins that share the indicated function or localization. As some proteins can have multiple functions, we can predict if the complex simultaneously belongs to several functional classes. Again, the percentage denotes the number of core proteins that share the indicated functional class/localization. Missing entries indicate that none of the functional classes/localization based predictions reach the 50% confidence level. The functional classes appearing in the table, together with their acronyms are: metabolism (M), energy (E), cell cycle (Cc), transcription (Tsc), protein synthesis (Ps), protein fate (Pf), cellular transport (Ct), cellular communication and signal transduction (Cco), cellular rescue defens and virulence (Cr), regulation (R), cell fate (Cf), transposable elements (Tsp), cellular organization (Co), subcellular localization (Sl), protein activity (Pa), protein with binding function (Pb), transport facilitation (Tf).

The localization classes (and their acronyms) are: extracellular (Ext), cell wall (CW),

plasma membrane (Pm), cytoplasm (Cyp), cytosceleton (Cyt), ER, golgi (G), transport vesicles (TV), nucleus (N), mitochondria (Mt), peroxisome (Pr), endosome (En), vacuole (V), microsomes (Mc), lipid particles (L).

Table I

Compl. nr.	Bait	Essentiality	Predicted function	Predicted localization
1	Abd1	Essential 100%	Tsc 100% Sl 100% Cc 50%	N 100%
2	Acc1	Unknown	M 50% Cc 50% Cf 50% Sl 50%	ER 50% N 50%
6	Ade4	Non–Essential 100%	M 100% Sl 100%	Cyp 100%
12	Aos1	Essential 100%	Pf 67% Sl 67%	
13	Apc2	Essential 100%	Cc 100% Pf 100% Sl 67%	N 67%
15	Apg14	Non–Essential 100%	Pf 100%	
16	Apl2	Non–Essential 80%	Ct 80% Sl 80% Pf 60%	TV 60%
17	Apl3	Non–Essential 100%	Pf 100% Ct 100% Sl 100%	TV 100%
18	Apl5	Non–Essential 100%	Ct 75%	
19	Apl6	Non–Essential 100%	Ct 100% Sl 50%	Cyp 50%
23	Arc15	Essential 75%	Ct 100% Sl 100%	
24	Arc18	Essential 83%	Ct 100% Sl 100%	
25	Arc35	Essential 100%	Ct 100% Sl 100%	Cyt 50%
26	Arc40	Essential 100%	Ct 100% Sl 100%	
27	Ard1	Non–Essential 100%	M 100% Sl 100% Pf 50%	Cyp 75%
30	Aro1	Unknown	Sl 83%	Cyp 50%
32	Arp2	Essential 100%	Sl 100% Ct 83%	
33	Arp3	Essential 83%	Ct 100% Sl 100%	
34	Asf1	Non–Essential 75%	Sl 75% M 50% Cc 50%	
38	Bem1	Unknown	Cf 100% Cc 50% R 50% Sl 50% Pa 50%	Pm 50% N 50%
39	Bet3	Essential 83%	Ct 100% Sl 100%	G 100%
42	Bmh2	Non–Essential 100%	M 60%	
44	Bud14	Non–Essential 100%	Cr 50% Sl 50%	N 50%
46	Bud20	Essential 82%		
47	Cap1	Non–Essential 100%	Cf 67% Sl 67%	Cyt 67%
49	Car1	Unknown	Sl 100% M 50% Ps 50%	Cyp 100%
51	Cbc2	Essential 75%	Tsc 55%	
52	Cbf5	Essential 86%	Sl 57%	
54	Ccl1	Essential 100%	Cc 100% Tsc 100% Sl 67%	N 67%
55	Ccr4	Non–Essential 67%	Sl 100% Tsc 67%	N 67%
57	Cdc24	Unknown	Cf 100% Cc 50% R 50% Sl 50% Pa 50%	Pm 50% N 50%
58	Cdc28	Non–Essential 67%	Cc 100% Sl 67%	Cyp 67%
59	Cdc3	Essential 100%	Cc 100% Cf 100% Sl 100% M 67%	Cyt 100%
60	Cdc33	Non–Essential 60%	Sl 80%	
61	Cdc36	Non–Essential 100%	Tsc 50% Pf 50% Sl 50%	Mt 50%
63	Cdc39	Essential 80%	Sl 80%	
64	Cdc45	Unknown	Sl 100% M 50% Cc 50% Tsc 50% Cf 50%	N 100%
66	Cdc48	Non–Essential 80%		
68	Cdc55	Non–Essential 89%		
70	Cdc95	Essential 81%		
71	Cef1	Essential 64%		
72	Ceg1	Unknown	Sl 75%	
73	Cft1	Essential 100%	Tsc 71% Sl 57%	N 57%
74	Cft2	Essential 88%	Tsc 62% Sl 50%	N 50%
75	Chc1	Non–Essential 100%	Pf 100% Ct 100% Sl 100%	Cyp 100% TV 100%

76	Chd1	Non−Essential 83%	Tsc 100% Sl 50%	N 50%
77	Ckb2	Essential 73%	Sl 64%	
78	Cks1	Non−Essential 80%	Cc 80% Sl 60%	Cyp 60%
79	Clf1	Essential 60%	Tsc 80%	N 60%
80	Clp1	Essential 75%	Sl 100% Tsc 75%	N 75%
83	Cop1	Essential 67%	Ct 100% Sl 100%	TV 100%
87	Cox9	Non−Essential 100%	E 100% Sl 100%	Mt 100%
88	Cph1	Non−Essential 75%	Tsc 50% Sl 50%	N 50%
89	Csl4	Essential 86%	Tsc 71%	
90	Cst13	Non−Essential 100%	Cr 50% Sl 50%	N 50%
91	Ctf18	Essential 80%	Cc 100% Sl 100%	N 100%
92	Ctk1	Non−Essential 100%	Tsc 100% Sl 100%	N 100%
93	Ctr9	Non−Essential 100%	Sl 86% Tsc 71%	N 71%
94	Cus1	Essential 100%	Tsc 86% Sl 71%	N 71%
95	Cyr1	Unknown	Cf 100% Sl 100% Cc 50% Ct 50% Cco 50%	Cyt 100%
98	Dcp2	Essential 67%		
99	Dis3	Essential 83%	Tsc 71%	
100	Dna2	Essential 100%	Cc 67% Sl 67%	N 67%
101	Doa1	Unknown	Tsc 50% Sl 50%	N 50%
102	Doc1	Essential 67%	Cc 100% Pf 100%	N 67%
103	Dpb2	Essential 100%	Cc 100% Sl 100%	N 100%
104	Dpb3	Essential 100%	Cc 100% Sl 100%	N 100%
106	Ecm1	Non−Essential 83%	Sl 83% Ct 50%	Cyp 67% N 50%
107	Ecm16	Non−Essential 100%	Tsc 100% Sl 100% Cc 50% Cf 50%	N 100%
108	Ecm2	Essential 100%		
110	Ede1	Non−Essential 100%		
112	Elp2	Non−Essential 100%	Cc 50% Tsc 50% Pf 50%	N 50%
114	Enp1	Essential 93%		
116	Epl1	Unknown		
117	Erb1	Essential 100%		
119	Erg13	Non−Essential 100%		
120	Ero1	Unknown	Sl 50%	
121	Erp1	Non−Essential 100%	Ct 100% Sl 67%	TV 100%
122	Erp2	Non−Essential 75%	Sl 62% Ct 50%	
123	Esa1	Essential 100%		
126	Exo84	Essential 100%	Ct 100% Sl 100%	Pm 100% Cyp 100%
129	Fip1	Essential 100%	Tsc 75% Sl 62%	N 62%
130	Fpr1	Unknown	Cc 50% Tsc 50% Sl 50%	N 50%
133	Fth1	Non−Essential 100%	Ct 75% Sl 75% R 50% Tf 50%	
135	Gar1	Essential 71%	Sl 50%	
136	Gcd1	Essential 75%	Ps 100% Sl 100%	Cyp 100%
137	Gcd6	Essential 75%	Ps 100% Sl 100%	Cyp 100%
138	Gcn2	Essential 80%	Tsc 80% Sl 60%	N 80%
140	Gcn3	Essential 86%	Ps 100% Sl 100%	Cyp 100%
144	Gdi1	Unknown	Ct 100% Sl 100%	Cyp 50% G 50%
145	Gga2	Non−Essential 100%		
148	Glo3	Essential 100%	Ct 100% Sl 100%	TV 100%

155	Gtr2	Unknown		
159	Hap2	Non−Essential 100%	Tsc 100% Sl 100%	N 100%
160	Hat1	Essential 75%	Sl 100% Ps 75% Cc 50%	Cyp 100%
161	Hat2	Non−Essential 100%	Tsc 100% Sl 100%	N 100%
162	Hca4	Essential 77%	Tsc 85% Sl 69%	N 62%
163	Hda1	Non−Essential 100%	Cc 100% Tsc 100% Pf 100% Sl 100%	N 100%
164	Hhf1	Non−Essential 69%	Sl 56%	
165	His4	Non−Essential 100%	M 100%	
169	Hrp1	Unknown	Ps 75% Sl 50%	
173	Hsm3	Essential 67%	Sl 83% Pf 75%	N 83% ER 75%
175	Htb2	Unknown	Sl 67% Tsc 58%	N 67%
180	Iml3	Non−Essential 80%	Cc 60% Sl 60%	
181	Ipp1	Non−Essential 75%	M 75%	
183	Ist1	Essential 67%	Sl 70% Ps 60%	Cyp 70%
184	Isw1	Unknown	Sl 56%	
185	Isw2	Non−Essential 100%	Tsc 50%	
186	Kap104	Non−Essential 80%	Sl 80%	Cyp 80%
188	Kgd1	Non−Essential 100%	Sl 100% M 50% E 50% Ps 50%	Mt 100%
189	Kgd2	Non−Essential 100%	M 100% E 67% Sl 67%	Mt 67%
190	Kin3	Non−Essential 100%	Cr 50% Sl 50%	N 50%
193	Kre30	Non−Essential 100%	Ct 100% R 100% Sl 100% Tf 100%	V 100%
194	Kre31	Essential 91%		
195	Kre32	Essential 75%		
196	Kre33	Unknown	Sl 57%	
197	Kre35	Non−Essential 67%		
198	Krr1	Essential 93%		
199	Krs1	Essential 100%	Cc 100% Tsc 100% Sl 100%	N 100%
200	Las17	Non−Essential 100%	Ct 67% Sl 67%	
201	Lcb2	Non−Essential 73%		
203	Lsm1	Unknown	Tsc 62% Sl 62%	
204	Lsm5	Essential 80%	Tsc 80% Sl 60%	N 60%
205	Lsm7	Unknown	Tsc 75% Sl 50%	
206	Lst8	Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
208	Luc7	Essential 91%	Tsc 82% Sl 73%	N 64%
211	Mak3	Non−Essential 100%	Pf 50% Tsp 50% Sl 50%	Cyp 50% N 50%
212	Mak5	Essential 69%		
214	Mas1	Essential 100%	Sl 75% Tsc 50%	N 50%
216	Mcd1	Essential 100%	Cc 100% Sl 67%	N 67%
217	Mcm2	Non−Essential 100%	M 100%	
218	Mcm6	Essential 100%	Cc 100% Sl 100%	N 100%
220	Mdm10	Essential 100%	Cc 50% Pf 50% Ct 50% Sl 50% Tf 50%	Mt 50%
222	Med2	Unknown	Sl 94% Tsc 82%	N 76%
223	Med7	Unknown	Sl 94% Tsc 69%	N 62%
226	Mot1	Non−Essential 60%	Sl 100%	Cyp 80%
227	Mrp4	Non−Essential 92%	Ps 85% Sl 77%	Mt 77%
228	Mrpl10	Non−Essential 100%	Ps 89% Sl 83%	Mt 83%
229	Mrpl16	Non−Essential 92%	Sl 86% Ps 71%	Mt 71%

230	Mrpl19	Non−Essential 100%	Ps 83% Sl 67%	Mt 67%
231	Mrpl9	Non−Essential 100%	Ps 85% Sl 75%	Mt 75%
232	Mrps5	Non−Essential 67%	Sl 71% Ps 53%	Mt 53%
233	Msh2	Non−Essential 75%	Sl 67%	
234	Msh6	Unknown	Cc 91% Sl 64%	N 55%
238	Mtr10	Unknown	Tsc 100% Sl 100% M 50% Ct 50% Cf 50%	N 100% Cyp 50%
239	Mtr4	Essential 100%	Tsc 100% Sl 100% Ct 50%	N 100%
240	Mud1	Essential 100%	Tsc 60% Sl 60%	N 60%
241	Mum2	Non−Essential 100%	Cc 50% Cf 50%	
243	Myo1	Unknown	Cf 75% Cc 50% Ct 50% Sl 50%	
244	Myo2	Essential 71%		
245	Myo4	Non−Essential 75%	Sl 88%	Cyp 88%
246	Nam8	Essential 100%	Tsc 89% Sl 78%	N 78%
247	Nap1	Non−Essential 71%		
248	Nat1	Non−Essential 100%	M 100% Cc 100% Pf 100% Sl 100%	Cyp 100%
250	Ncl1	Non−Essential 100%	Sl 100%	
252	Nhp10	Non−Essential 60%		
253	Nhp2	Essential 75%		
254	Nhp6b	Essential 62%	Tsc 62% Sl 62%	N 54%
255	Nmd3	Unknown	Tsc 50%	Cyp 50%
256	Nmr1	Non−Essential 100%	Cc 100% Cf 100%	
257	Nop2	Essential 79%	Tsc 50%	
258	Nop4	Essential 87%		
259	Not3	Unknown	Sl 83% M 50% Tsc 50%	N 50%
260	Npl4	Unknown	Pf 100% Ct 50%	N 50%
261	Nsp1	Non−Essential 71%	Sl 86% Ps 71%	Mt 57%
263	Nup116	Essential 100%	Tsc 100% Ct 100% Sl 100%	N 100% Cyt 50%
264	Nup60	Essential 100%	Pf 100% Ct 100% Sl 100% Co 50%	Cyp 50% N 50%
265	Nup82	Essential 100%	Tsc 100% Ct 100% Sl 100%	N 100% Cyt 50%
266	Orc1	Essential 100%	Cc 100% Tsc 100% Cf 100% Sl 100%	N 100%
267	Orc2	Essential 100%	Cc 100% Tsc 100% Cf 100% Sl 100%	N 100%
268	Osh1	Non−Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
269	Ost1	Essential 100%	Sl 100% M 60% Pf 60%	ER 60%
270	Pac10	Non−Essential 100%	Pf 100% Co 100% Sl 100% Cc 67%	Cyp 100%
272	Pap1	Essential 90%	Tsc 80% Sl 70%	N 60%
273	Pbp2	Essential 100%	Sl 100% Tsc 50% Ps 50% Co 50%	Cyp 50% N 50%
274	Pcf11	Essential 83%	Tsc 100% Sl 100%	N 100%
276	Pdb1	Non−Essential 88%	Sl 88% M 62% E 62%	Mt 75%
278	Pep1	Non−Essential 100%	Sl 100% Tsc 50% Pf 50% Ct 50% Cf 50%	N 100%
279	Pep3	Non−Essential 100%	Pf 100% Sl 100% Ct 75%	V 100%
281	Pfs2	Essential 100%	Tsc 100% Sl 100%	N 67%
282	Pgk1	Essential 100%	Ct 100% Sl 100%	TV 100%
284	Pim1	Non−Essential 100%	M 67% Tsc 67% Sl 67%	Mt 67%
288	Pol12	Essential 86%	Sl 100% Cc 86%	N 86%
289	Pop2	Essential 83%	Sl 100% Cc 67%	N 100%
290	Pop7	Essential 100%	Sl 100% Tsc 80%	N 100%
291	Pph22	Essential 100%	Pf 100% Sl 100%	ER 100% N 100%

292	Pph3	Non−Essential 100%		
293	Ppt1	Non−Essential 100%	Cr 100% Sl 100% E 50% Cc 50% Cf 50%	Cyp 100%
294	Pre8	Essential 83%	Pf 83% Sl 83%	ER 83% N 83%
300	Prp28	Unknown	Cc 50% Tsc 50% Sl 50%	N 50%
301	Prp31	Non−Essential 73%	Sl 73% Ps 60%	Mt 60%
302	Prp4	Essential 67%	Tsc 100% Sl 67%	N 100%
303	Prp43	Essential 83%		
304	Prp45	Essential 67%		
306	Prp8	Essential 76%	Tsc 71%	N 53%
307	Prt1	Essential 100%	Ps 100% Sl 100%	Cyp 100%
308	Pse1	Essential 68%	Sl 74%	
309	Pta1	Essential 82%	Tsc 82% Sl 55%	N 55%
310	Ptc3	Non−Essential 67%	Sl 67%	
311	Ptc4	Non−Essential 100%		
312	Pub1	Non−Essential 64%	Sl 82% Tsc 55%	N 55%
315	Pwp1	Essential 60%		
316	Pwp2	Essential 94%		
317	Rad16	Non−Essential 100%	Sl 78%	
318	Rad23	Essential 67%	Pf 89% Sl 89%	ER 89% N 89%
319	Rad3	Non−Essential 71%	Sl 86%	
320	Rad51	Non−Essential 69%	Sl 77%	
321	Rai1	Unknown	Cc 50% Tsc 50% Ct 50% Cf 50% Sl 50%	N 50%
322	Ram1	Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
326	Reb1	Unknown	Sl 67% Tsc 50%	N 50%
327	Ref2	Essential 88%	Tsc 75% Sl 62%	N 62%
328	Ret2	Essential 80%	Ct 100% Sl 100%	TV 100%
329	Rfa1	Unknown	Cc 88% Sl 75%	N 75%
330	Rfc2	Essential 100%	Cc 100% Sl 100%	N 100%
331	Rfc5	Essential 80%	Cc 80% Sl 80%	N 80%
332	Rfx1	Non−Essential 62%	Tsc 75% Sl 62%	N 50%
339	Rna14	Essential 85%	Tsc 100% Sl 92%	N 92%
340	Rna15	Essential 100%	Tsc 100% Sl 100%	N 100%
341	Rnh1	Essential 100%	Cc 67% Sl 67%	N 67%
343	Rox3	Non−Essential 75%	Tsc 92% Sl 92%	N 75%
344	Rpa12	Essential 88%	Tsc 88% Sl 88%	N 88%
345	Rpa190	Essential 71%	Tsc 100% Sl 100%	N 100%
346	Rpb3	Essential 75%	Tsc 100% Sl 100%	N 100%
347	Rpb7	Essential 75%	Tsc 100% Sl 100%	N 100%
348	Rpb9	Essential 75%	Tsc 100% Sl 100%	N 100%
349	Rpc25	Essential 86%	Tsc 100% Sl 86%	N 100%
350	Rpc34	Essential 88%	Tsc 88% Sl 88%	N 88%
351	Rpc40	Essential 73%	Tsc 93% Sl 93%	N 93%
352	Rpd3	Non−Essential 89%	Tsc 78% Sl 78%	N 67%
353	Rpf1	Essential 100%	Cc 50%	
354	Rpg1	Essential 100%	Ps 83% Sl 83%	Cyp 83%
355	Rpl23a	Non−Essential 75%		
356	Rpl2a	Essential 62%		

357	Rpn10	Essential 89%	Pf 100% Sl 100%	ER 100% N 100%
358	Rpn11	Essential 100%	Pf 100% Sl 100%	ER 100% N 100%
359	Rpn12	Essential 90%	Pf 100% Sl 100%	ER 100% N 100%
360	Rpn5	Essential 93%	Pf 100% Sl 100%	ER 100% N 100%
361	Rpn6	Essential 83%	Pf 100% Sl 92%	ER 92% N 92%
362	Rpn8	Essential 80%	Pf 100% Sl 100%	ER 100% N 100%
363	Rpo31	Essential 100%	Tsc 93% Sl 79%	N 86%
365	Rpt1	Essential 92%	Pf 100% Sl 100%	ER 100% N 100%
366	Rri1	Non−Essential 100%		
367	Rrp45	Essential 92%	Tsc 62%	
368	Rrp46	Essential 80%	Tsc 64%	
370	Rtf1	Non−Essential 100%	Sl 75% Cc 50% Tsc 50%	N 50%
371	Rts1	Non−Essential 75%	Cc 75% Cf 75% M 50%	
372	Sac2	Non−Essential 100%	Ct 100% Sl 100%	G 100%
373	Scl1	Essential 80%	Pf 90% Sl 90%	ER 90% N 90%
374	Scp160	Non−Essential 100%	Cc 100% Tsc 100% Sl 100%	N 100%
375	Scs2	Non−Essential 83%	M 83% Cc 50%	
376	Sda1	Essential 86%		
378	Sec1	Unknown	M 100% E 100% Sl 100%	Cyp 100%
379	Sec13	Essential 60%	Ct 100% Sl 100% Tsc 50% Cf 50%	N 83%
380	Sec27	Essential 75%	Ct 100% Sl 100%	TV 100%
381	Sec31	Unknown	Sl 83% Tsc 50%	N 50%
382	Sec62	Non−Essential 60%	Sl 100% Pf 80% Ct 80% Tf 80%	ER 80%
383	Sec66	Unknown	Pf 100% Ct 100% Sl 100% Tf 100%	ER 100%
384	Sec7	Non−Essential 78%	Sl 56%	
385	Ser3	Non−Essential 100%	M 100% Sl 50%	Ext 50%
387	Sgn1	Non−Essential 100%	Sl 75%	Cyp 50%
388	She3	Non−Essential 100%	Cf 100% Sl 100%	Cyp 100% Cyt 50%
389	Shm2	Unknown	M 100% Sl 100% Cf 50%	Cyp 100%
391	Sif2	Non−Essential 100%	Pf 50%	
392	Sig1	Unknown	Tsc 100% Sl 100% M 50% Cf 50%	N 100%
393	Sin3	Non−Essential 92%	Tsc 60%	
394	Sir2	Non−Essential 75%	Sl 100% M 50% E 50%	Cyp 75%
395	Sis1	Essential 100%	Cc 100% Ps 100% Sl 100%	Cyp 100% N 100%
396	Sit4	Non−Essential 73%	Cc 55% Cf 55%	
397	Ski6	Essential 90%	Tsc 64%	
398	Sla1	Non−Essential 80%		
399	Slc1	Non−Essential 80%	Sl 80%	Cyp 80%
401	Sly1	Essential 100%	Pf 100% Ct 100% Sl 100%	G 100%
403	Smc3	Unknown	Sl 67%	Cyp 50%
404	Smd1	Essential 100%	Tsc 83% Sl 83%	N 83%
405	Sme1	Essential 71%	Tsc 100% Sl 71%	N 86%
406	Smx2	Essential 81%	Tsc 76% Sl 62%	N 71%
407	Smx3	Essential 75%	Tsc 69% Sl 50%	N 56%
409	Snf1	Non−Essential 100%	M 80% Tsc 80% Sl 80%	N 60%
410	Snf4	Non−Essential 100%	Tsc 83% Sl 83% M 50%	N 67%
411	Snf5	Non−Essential 100%	Sl 71% Tsc 57%	N 57%

412	Snp1	Essential 75%	Tsc 100% Sl 75%	N 75%
414	Spf1	Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
415	Spo7	Non−Essential 100%	Sl 100% M 60% Cf 60%	N 60%
416	Spp381	Essential 77%	Tsc 92% Sl 54%	N 69%
417	Spt15	Essential 71%	Sl 100% Tsc 57%	N 86%
418	Spt16	Non−Essential 80%	Sl 100% Cc 67% Tsc 67%	N 83%
419	Spt6	Unknown	Sl 100% Cc 75% Tsc 75%	N 100%
420	Spt7	Non−Essential 80%	Tsc 80% Sl 80%	N 80%
421	Srb6	Non−Essential 65%	Tsc 94% Sl 94%	N 88%
423	Srp54	Essential 86%	Pf 86% Sl 86%	Cyp 100%
424	Srv2	Unknown	Cf 100% Sl 100% Cc 50% Ct 50% Cco 50%	Cyt 100%
425	Ssa1	Essential 100%	Tsc 100% Sl 100%	N 100%
426	Sse1	Non−Essential 100%	Cr 100% Sl 100%	Cyp 100%
428	Ssf1	Essential 88%		
429	Ssl1	Essential 100%	Pf 100% Ct 100% Sl 100%	Cyp 100%
430	Ssn8	Non−Essential 100%	M 100% Tsc 100% Sl 100% Cc 50%	N 100%
433	Sto1	Unknown	Sl 68% Tsc 64%	N 55%
435	Sua7	Essential 86%	Ps 86% Sl 86%	Cyp 86%
436	Sup35	Unknown	Sl 83%	
437	Sup45	Unknown	Sl 62%	
438	Taf145	Essential 67%	Tsc 67% Sl 67%	N 67%
439	Taf19	Essential 100%	Tsc 100% Sl 78%	N 89%
440	Taf25	Unknown	Tsc 100% Sl 90%	N 100%
441	Taf60	Unknown	Tsc 91% Sl 82%	N 91%
442	Taf90	Essential 86%	Tsc 100% Sl 71%	N 86%
443	Tap42	Essential 100%	Pf 100% Sl 100%	Cyp 100%
444	Tat1	Non−Essential 67%	Sl 71%	
445	Tef2	Non−Essential 67%	Ps 100% Sl 100%	Cyp 100%
446	Tef4	Non−Essential 75%	Sl 62% Ps 50%	Cyp 50%
447	Tfb1	Essential 100%	Cc 100% Tsc 100% Sl 100%	N 100%
448	Tfc1	Essential 100%	Tsc 100% Sl 100%	N 100%
449	Thi3	Non−Essential 100%	M 50% Tsc 50%	
451	Tif4631	Non−Essential 67%	Sl 67%	
452	Tif5	Essential 89%		
456	Top2	Unknown	Cc 50% Sl 50%	Cyp 50% N 50%
457	Tos1	Essential 67%	Sl 100% Ct 67%	TV 67%
458	Tpd3	Non−Essential 100%	Cc 57% Cf 57%	
459	Tpk2	Non−Essential 100%	Tsc 100% Cco 100% Sl 100%	Cyp 100%
460	Tps1	Non−Essential 73%	M 64% Sl 57%	
462	Trp2	Non−Essential 100%	M 100% Sl 100%	Cyp 100%
463	Trs20	Essential 75%	Sl 88% Ct 75%	G 75%
465	Tsm1	Essential 75%	Sl 100% Tsc 75%	N 75%
466	Tub4	Essential 67%	Cc 100% Sl 100%	Cyp 100% Cyt 100% N 100%
472	Ubp14	Essential 67%	Ps 67% Sl 67%	Cyp 67%
473	Ubp15	Unknown		
474	Ubp6	Essential 78%	Pf 100% Sl 89%	ER 89% N 89%

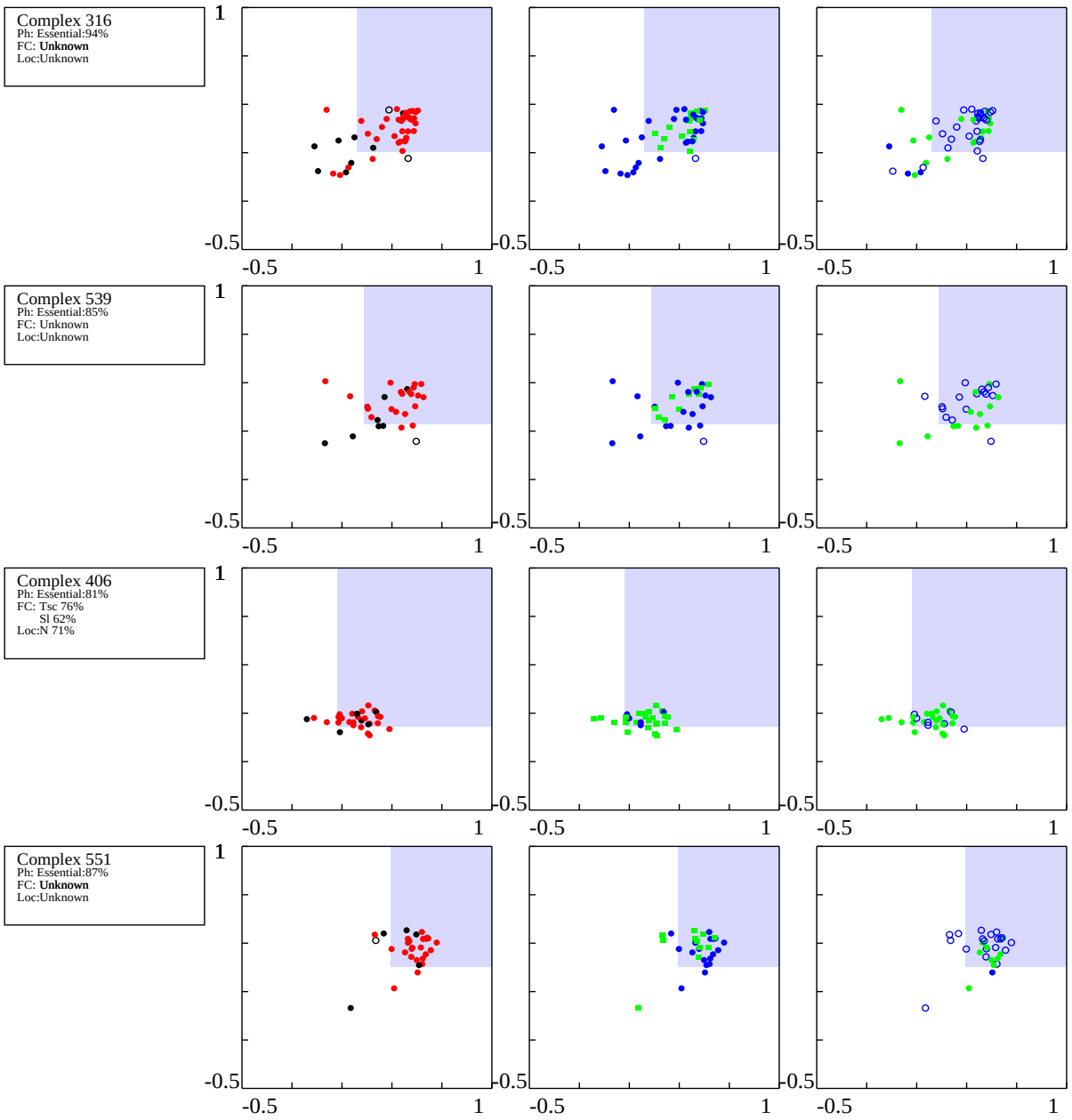
475	Ufd1	Unknown	Pf 100% Cc 50% Ct 50%	N 50%
478	Ura7	Unknown	Sl 85% Pf 54%	
481	Vma2	Non−Essential 100%	Pf 100% Ct 100% R 100% Sl 100% Tf 100%	V 100%
482	Vma7	Non−Essential 100%	Ct 75% R 75% Sl 75% Tf 75% Pf 50%	V 75%
483	Vma8	Non−Essential 100%	Ct 67% R 67% Sl 67% Tf 67%	V 67%
486	Vps4	Non−Essential 100%	Cr 100% R 100%	
487	Vps41	Non−Essential 100%	Pf 100% Sl 100% Ct 80%	V 100%
488	Vps45	Essential 60%	Ct 100% Sl 100% Pf 80% Co 80%	
489	Vps53	Non−Essential 100%	Ct 100% Sl 100%	G 100%
490	Vps8	Non−Essential 100%	Pf 100% Ct 100% Sl 100%	V 100%
492	Vrp1	Non−Essential 67%	Cf 60% Sl 60%	
495	YAL019W	Non−Essential 100%	Sl 100% M 50% Cc 50%	N 50% Mt 50%
496	YAL027W	Non−Essential 83%	Sl 71%	
497	YAL034C	Non−Essential 75%	Sl 100% M 50% Tsc 50%	N 75% Cyp 50%
499	YAL053W	Non−Essential 100%	M 50% Sl 50%	Pm 50%
501	YAR003W	Non−Essential 100%		
502	YBL032W	Non−Essential 60%	Sl 70%	
504	YBL046W	Non−Essential 100%		
505	YBL051C	Essential 100%	Cc 100%	
513	YBR101C	Non−Essential 100%	Pf 50%	
515	YBR175W	Non−Essential 100%		
518	YBR225W	Non−Essential 100%	Cf 50%	
519	YBR238C	Unknown	M 50% Cc 50% Cf 50% Sl 50%	Cyp 50%
521	YBR267W	Non−Essential 100%		
523	YCR072C	Essential 100%		
525	YDL060W	Essential 80%		
526	YDL076C	Non−Essential 83%	Tsc 57% Sl 57%	N 57%
530	YDR036C	Non−Essential 86%	Ps 100% Sl 88%	Mt 88%
531	YDR060W	Essential 94%		
533	YDR430C	Non−Essential 100%	M 100% E 100% Sl 100%	Mt 100%
534	YER007CA	Non−Essential 100%		
535	YER007CA	Non−Essential 100%		
539	YGR090W	Essential 85%		
540	Yhc1	Essential 75%	Tsc 100% Sl 88%	N 88%
542	YHL021C	Unknown	Tsc 100% Sl 100% Cr 50%	N 100%
543	Yif2	Essential 67%	Sl 83%	
546	YJL069C	Essential 88%		
547	YJR014W	Non−Essential 100%		
548	Yju2	Essential 70%	Sl 50%	N 50%
549	YKL059C	Essential 91%	Tsc 73% Sl 64%	N 55%
551	YKR081C	Essential 87%		
553	YLL013C	Non−Essential 100%		
554	YLL034C	Essential 100%	Cc 50% Pf 50% Sl 50%	ER 50% N 50%
557	YML059C	Non−Essential 100%		
560	Ynk1	Unknown	Sl 100% M 50% Tsc 50%	Cyp 50% N 50%
563	YNL110C	Essential 93%		

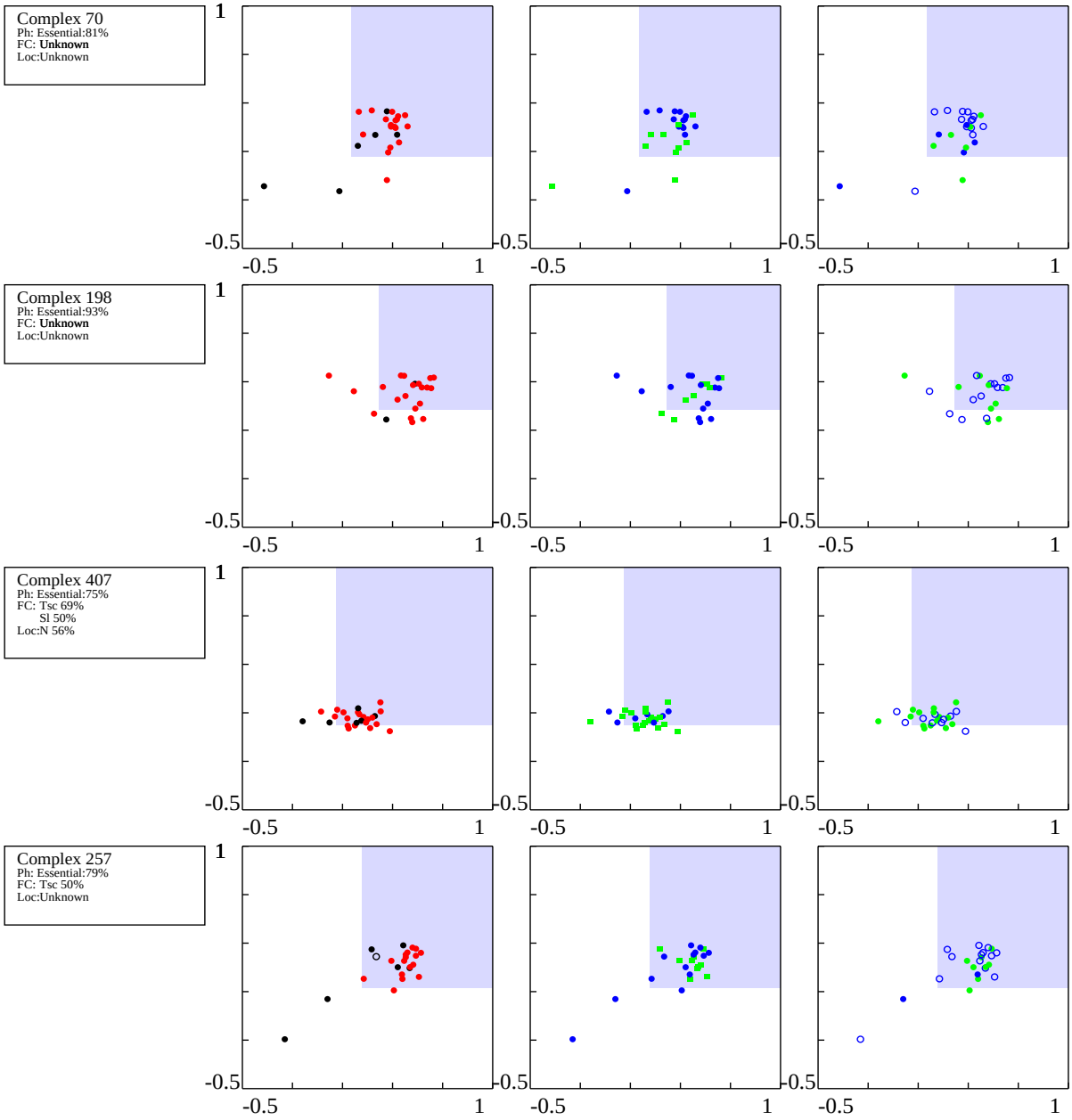
564	YNL127W	Non–Essential 62%	M 78% Sl 78% E 67%	Cyp 67%
565	YNL201C	Non–Essential 80%		
566	YNL207W	Essential 80%		
567	YNL313C	Non–Essential 60%	Sl 50%	
568	YNR046W	Unknown		
574	YOR056C	Essential 100%		
576	YOR179C	Unknown	Tsc 50% Sl 50%	N 50%
583	Ysh1	Essential 100%	Tsc 83% Sl 67%	N 67%
584	Yth1	Essential 100%	Tsc 80% Sl 70%	N 60%
585	Zds1	Non–Essential 60%	Pf 60%	
586	Zds2	Non–Essential 100%	Cc 75% Cf 75%	

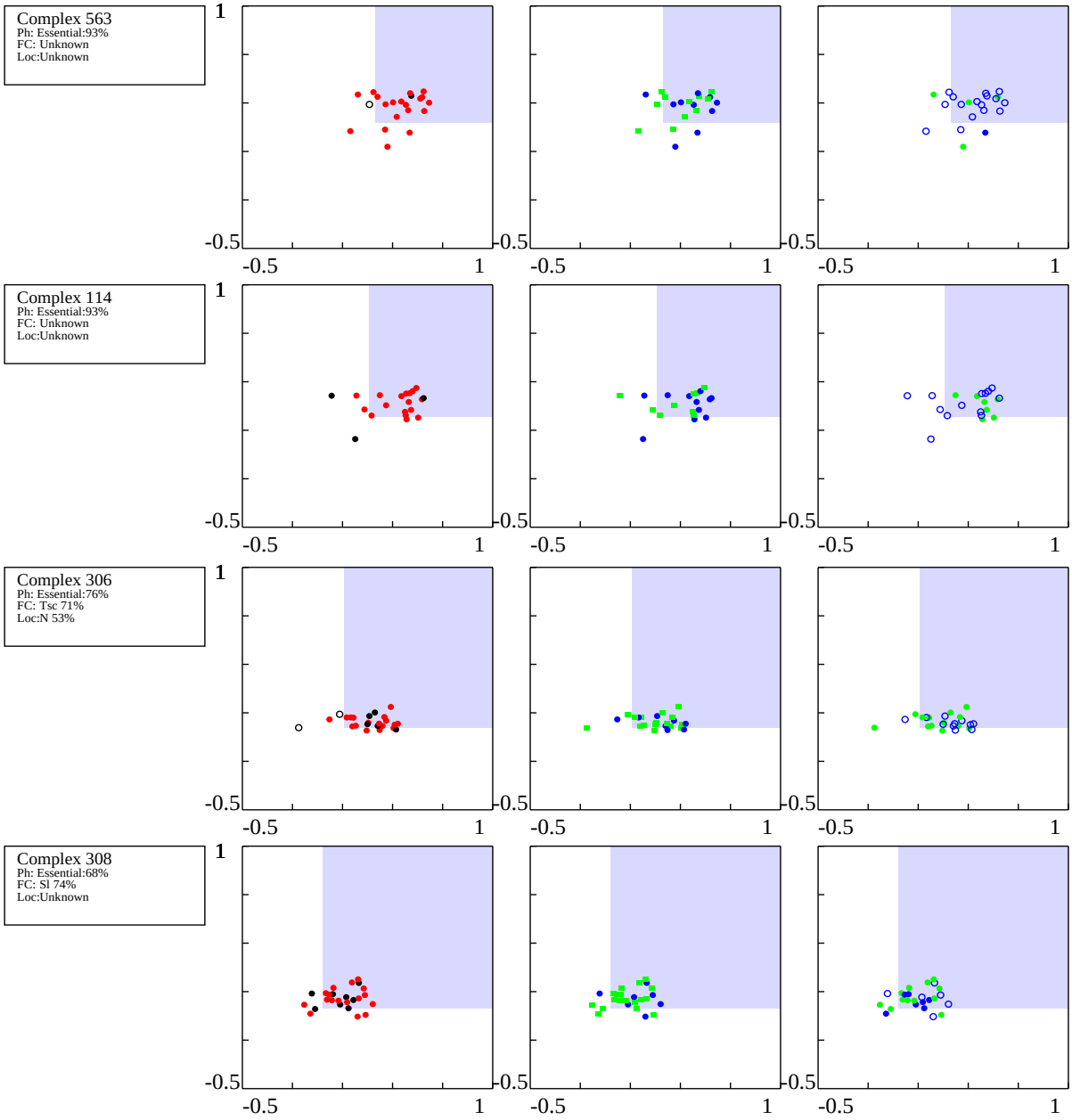
I(b). Essential Complexes from the Gavin *et al.* database

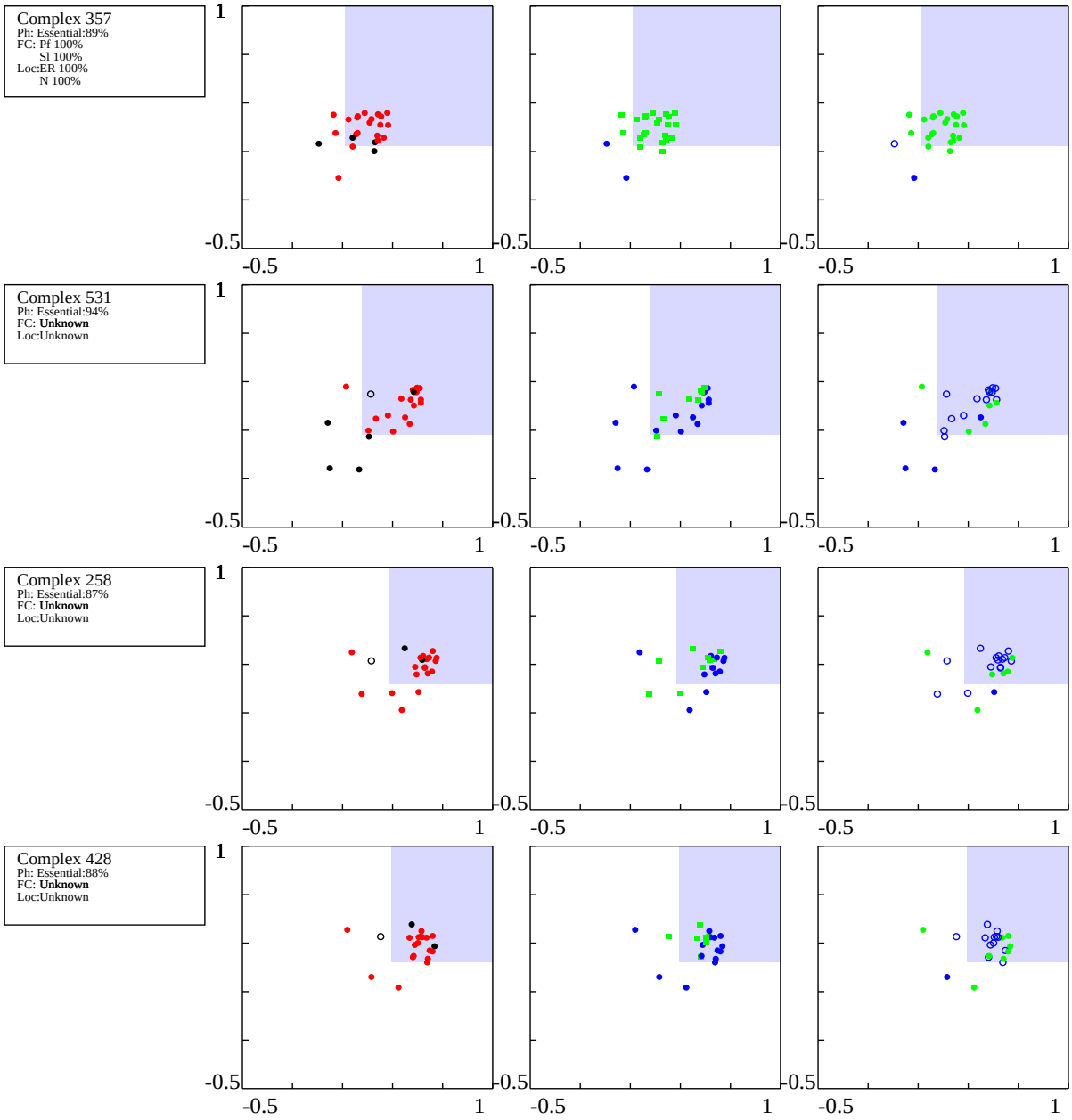
This table offers a detailed summary of all complexes that have been found essential (defined as complexes for which more than 60% of the core proteins with known deletion phenotype are essential). The complexes are ordered based on their size, the complex with the largest number of protein subunits being shown first, and with the fewest last. We show only complexes with at least 10 protein subunits, the predictions for all other complexes being given in Table I. In the left column for each complex we indicate the predicted phenotype (Ph), which is essential for all complexes in this table, together with the fraction of lethal proteins in the core, offering a quantitative measure of the confidence level of the prediction. In addition, we list the predicted functional category of the complex (Fc). For this we list all functional classes that are shared by at least 50% of the core proteins with known functional classification, giving the percentage of the proteins sharing the specific functional class. Finally, we list our prediction regarding the cellular localization of the complex, together with the percentage of the core proteins sharing the listed cellular localization. If the predicted functional class or cellular localization is marked "unknown", it implies that we did not find a 50% majority regarding the characteristics of the core proteins.

Complex Prediction Deletion Phenotype Functional Classification Cellular Localization




Complex 70
Ph: Essential:81%
FC: Unknown
Loc:Unknown
Complex 198
Ph: Essential:93%
FC: Unknown
Loc:Unknown
Complex 407
Ph: Essential:75%
FC: Tsc 69%
Sl 50%
Loc:N 56%
Complex 257
Ph: Essential:79%
FC: Tsc 50%
Loc:Unknown
1
-0.5
1


Complex 563
Ph: Essential:93%
FC: Unknown
Loc:Unknown
Complex 114
Ph: Essential:93%
FC: Unknown
Loc:Unknown
Complex 306
Ph: Essential:76%
FC: Tsc 71%
Loc:N 53%
Complex 308
Ph: Essential:68%
FC: Sl 74%
Loc:Unknown
1
-0.5
-0.5
1


Complex 357
Ph: Essential:89%
FC: Pf 100%
Sl 100%
Loc:ER 100%
N 100%
Complex 531
Ph: Essential:94%
FC: Unknown
Loc:Unknown
Complex 258
Ph: Essential:87%
FC: Unknown
Loc:Unknown
Complex 428
Ph: Essential:88%
FC: Unknown
Loc:Unknown
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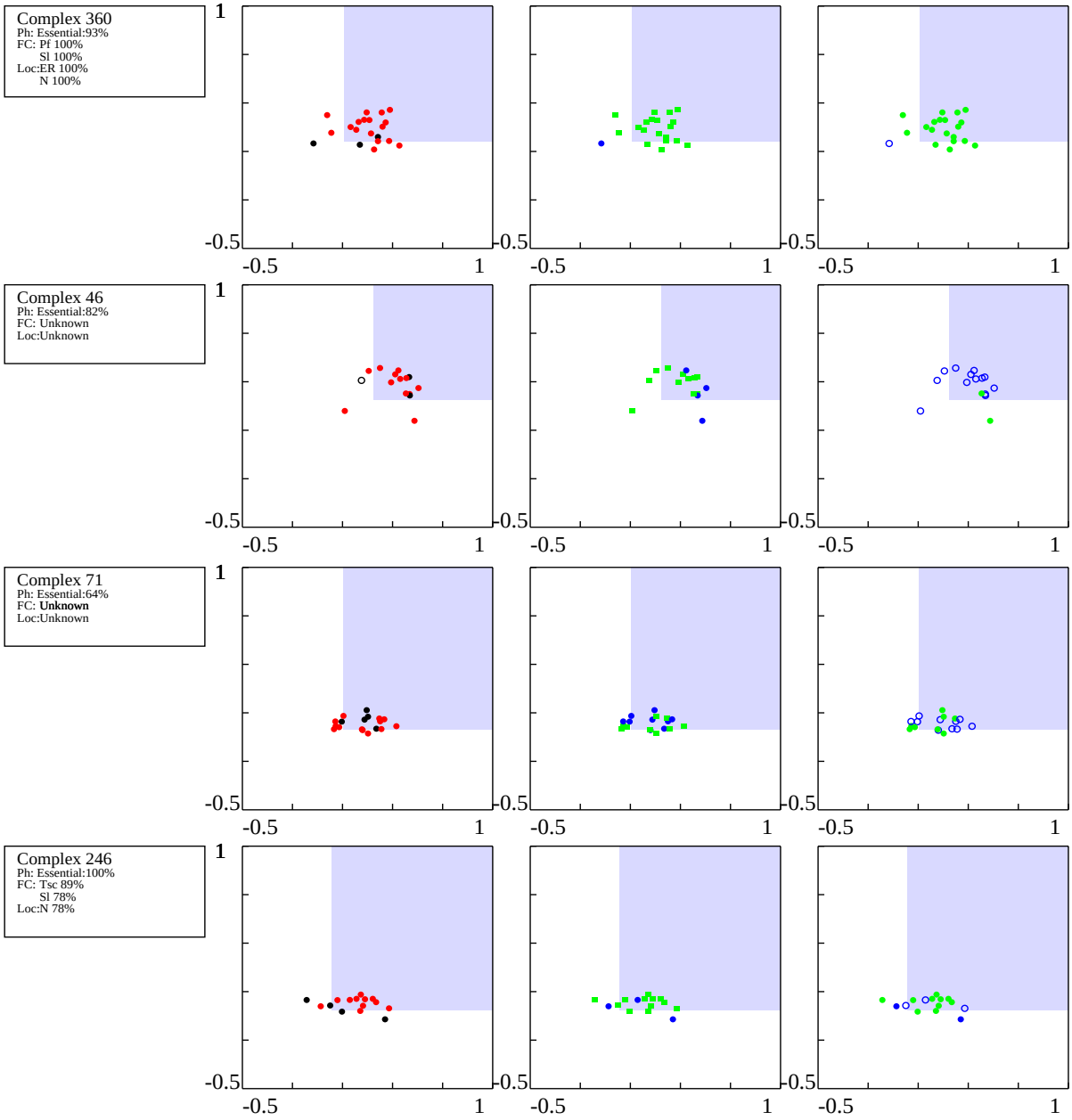
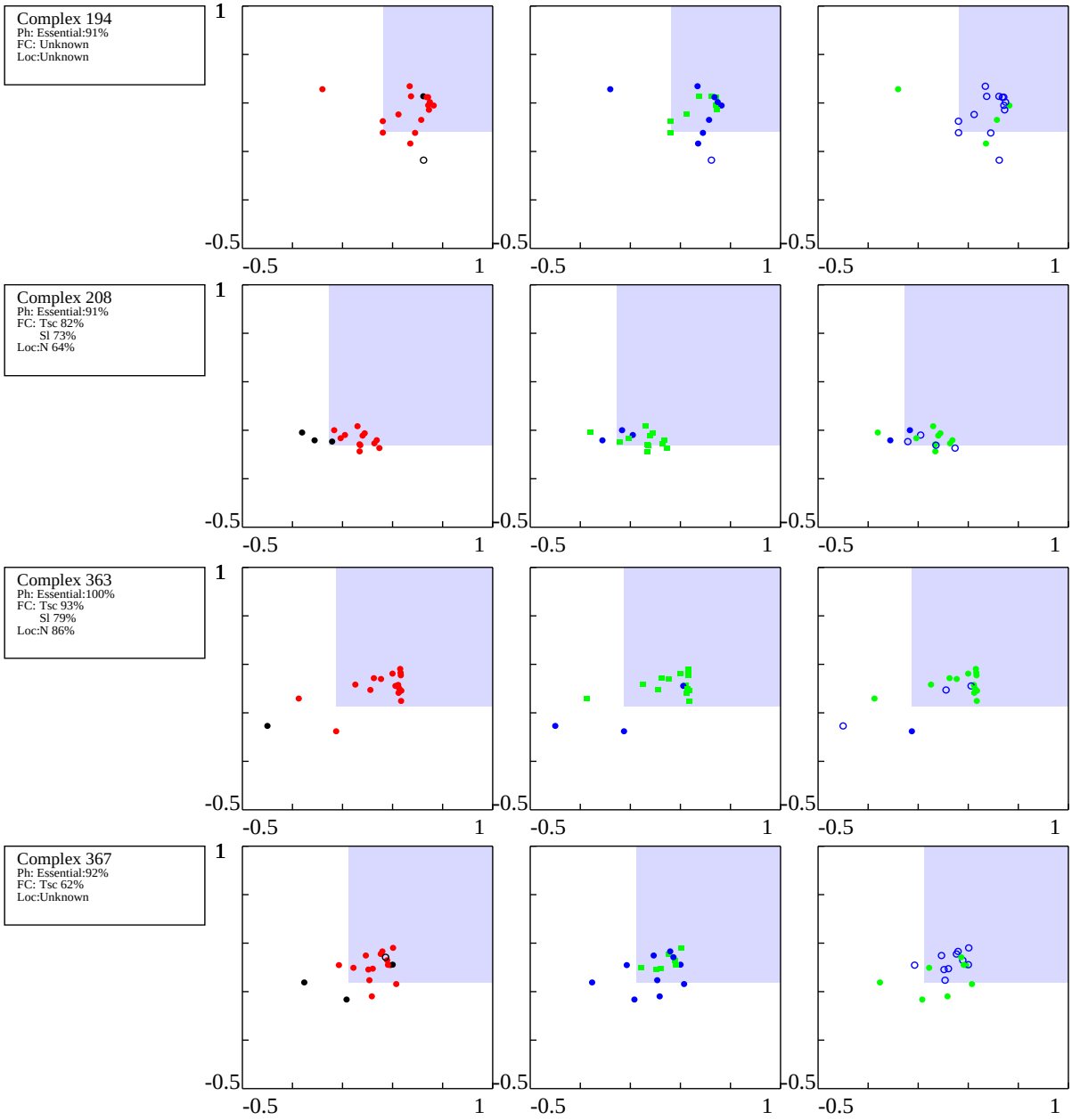
-0.5
-0.5
1


Complex 360
Ph: Essential:93%
FC: Pf 100%
Sl 100%
Loc:ER 100%
N 100%
Complex 46
Ph: Essential:82%
FC: Unknown
Loc:Unknown
Complex 71
Ph: Essential:64%
FC: Unknown
Loc:Unknown
Complex 246
Ph: Essential:100%
FC: Tsc 89%
Sl 78%
Loc:N 78%
1
-0.5
-0.5
1


Complex 194
Ph: Essential:91%
FC: Unknown
Loc:Unknown
Complex 208
Ph: Essential:91%
FC: Tsc 82%
Sl 73%
Loc:N 64%
Complex 363
Ph: Essential:100%
FC: Tsc 93%
Sl 79%
Loc:N 86%
Complex 367
Ph: Essential:92%
FC: Tsc 62%
Loc:Unknown
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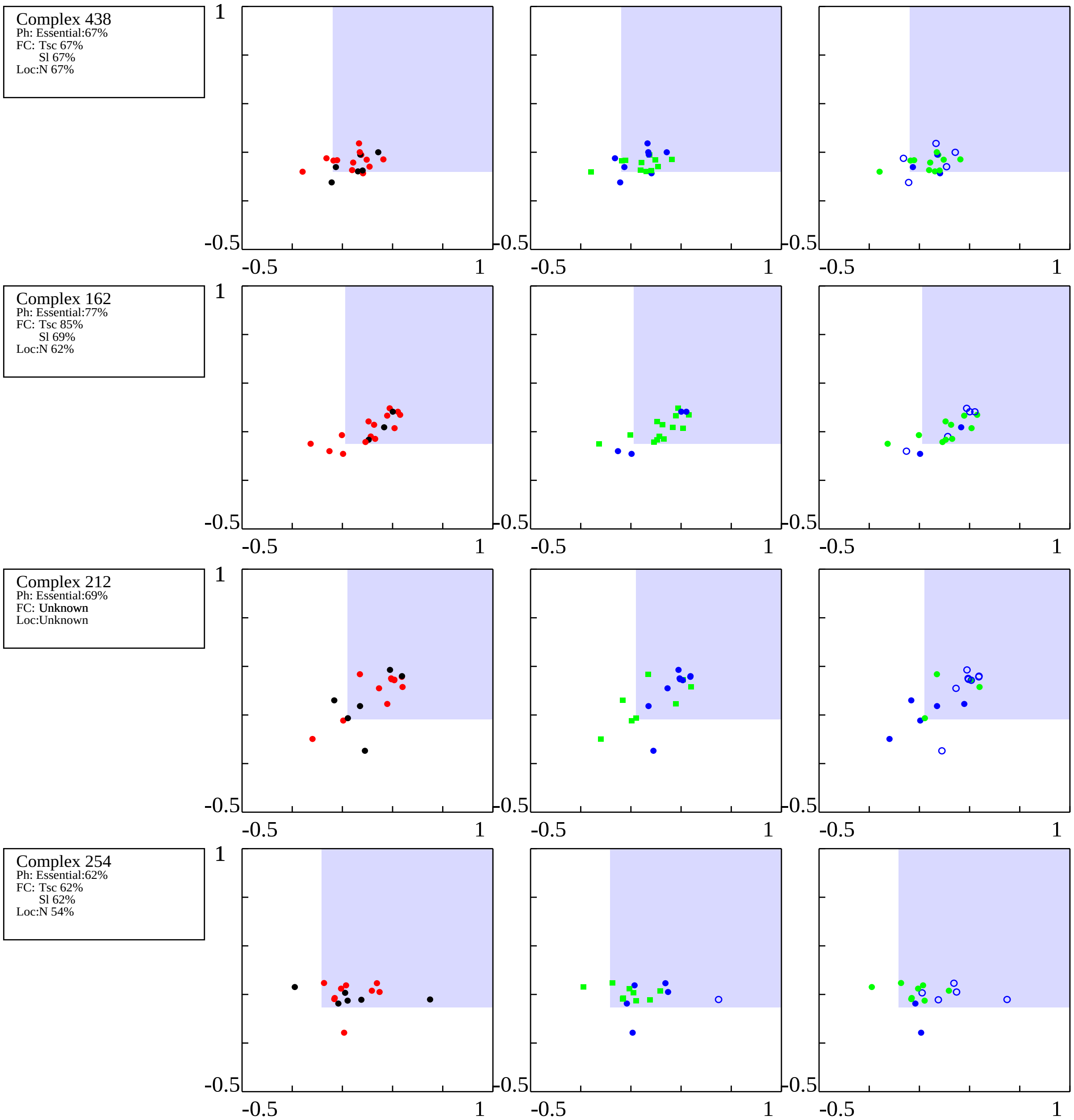
-0.5
-0.5
1


Complex 438
Ph: Essential:67%
FC: Tsc 67%
Sl 67%
Loc:N 67%
Complex 162
Ph: Essential:77%
FC: Tsc 85%
Sl 69%
Loc:N 62%
Complex 212
Ph: Essential:69%
FC: Unknown
Loc:Unknown
Complex 254
Ph: Essential:62%
FC: Tsc 62%
Sl 62%
Loc:N 54%
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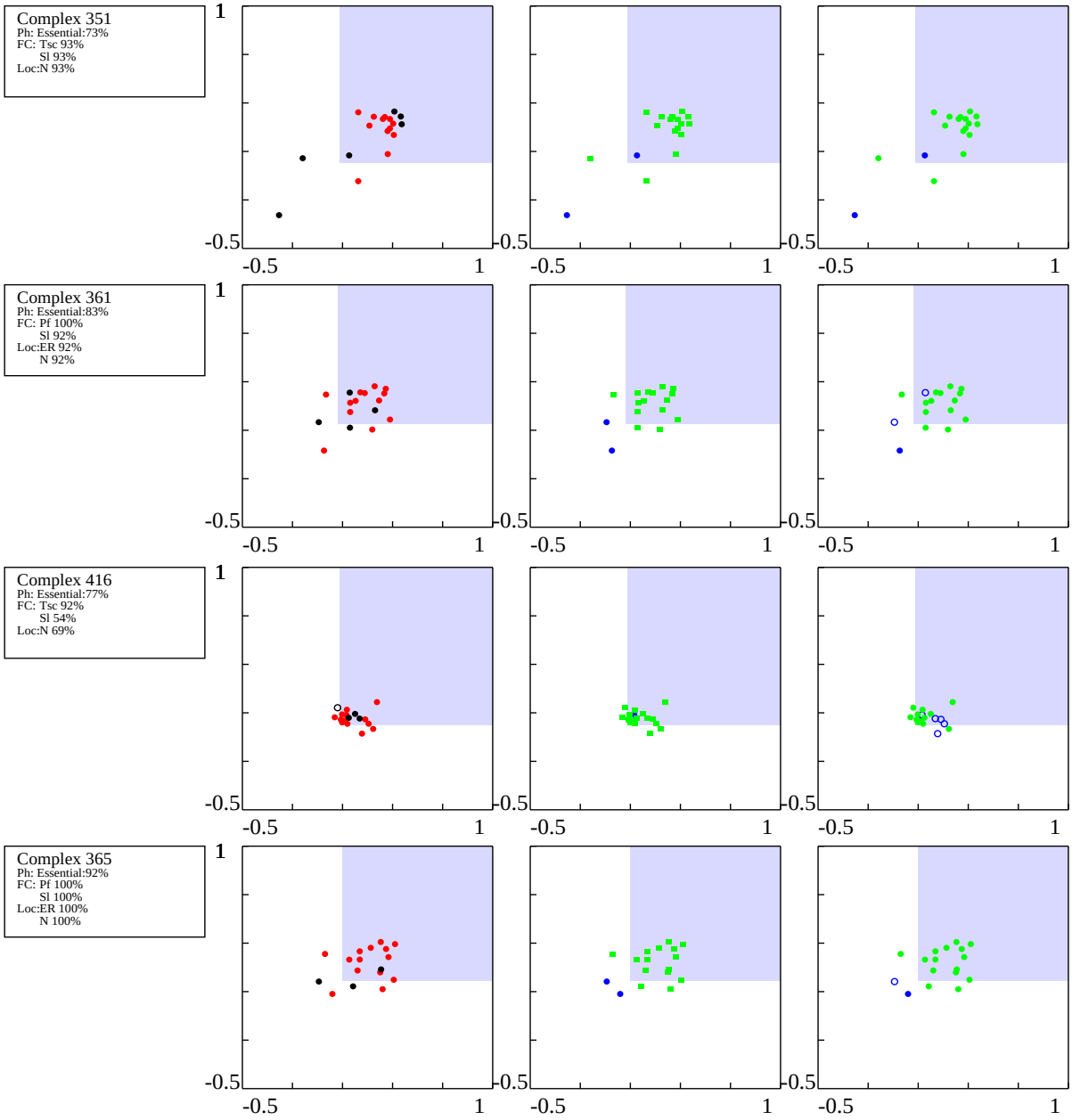
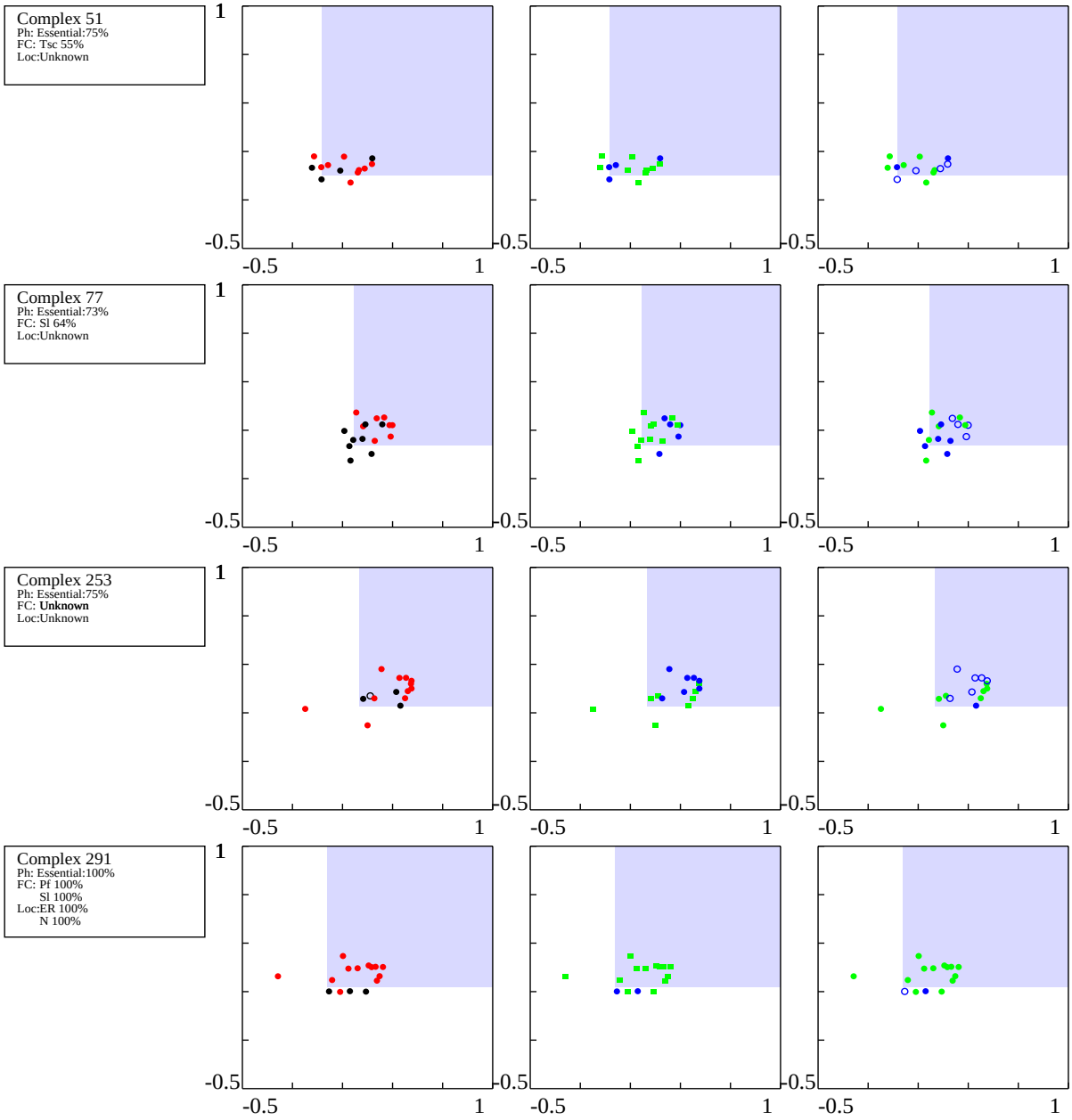
-0.5
-0.5
1


Complex 351
Ph: Essential:73%
FC: Tsc 93%
Sl 93%
Loc:N 93%
Complex 361
Ph: Essential:83%
FC: Pf 100%
Sl 92%
Loc:ER 92%
N 92%
Complex 416
Ph: Essential:77%
FC: Tsc 92%
Sl 54%
Loc:N 69%
Complex 365
Ph: Essential:92%
FC: Pf 100%
Sl 100%
Loc:ER 100%
N 100%
1
-0.5
-0.5
1


Complex 51
Ph: Essential:75%
FC: Tsc 55%
Loc:Unknown
Complex 77
Ph: Essential:73%
FC: Sl 64%
Loc:Unknown
Complex 253
Ph: Essential:75%
FC: Unknown
Loc:Unknown
Complex 291
Ph: Essential:100%
FC: Pf 100%
Sl 100%
Loc:ER 100%
N 100%
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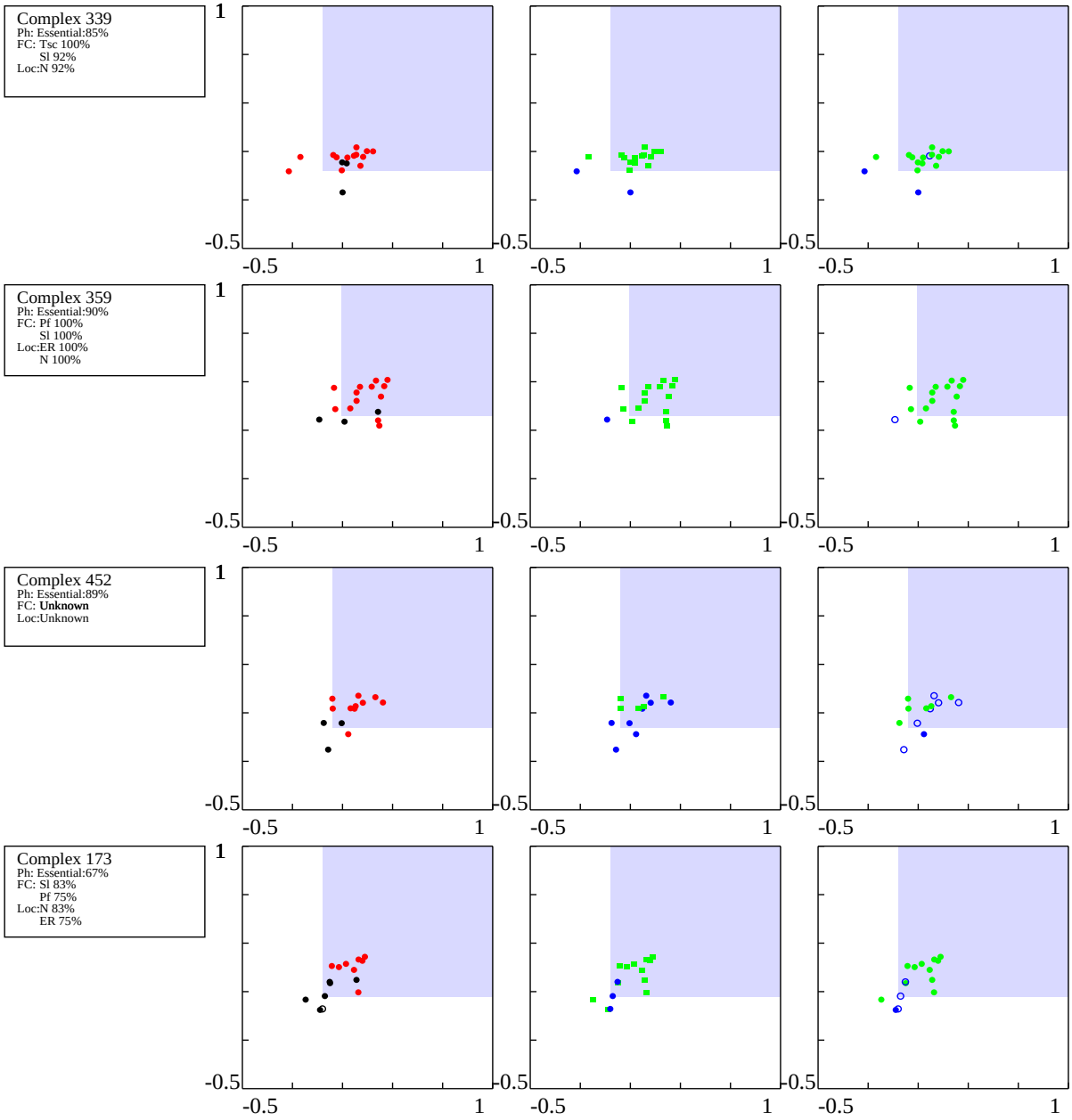
-0.5
-0.5
1


Complex 339
Ph: Essential:85%
FC: Tsc 100%
Sl 92%
Loc:N 92%
Complex 359
Ph: Essential:90%
FC: Pf 100%
Sl 100%
Loc:ER 100%
N 100%
Complex 452
Ph: Essential:89%
FC: Unknown
Loc:Unknown
Complex 173
Ph: Essential:67%
FC: Sl 83%
Pf 75%
Loc:N 83%
ER 75%
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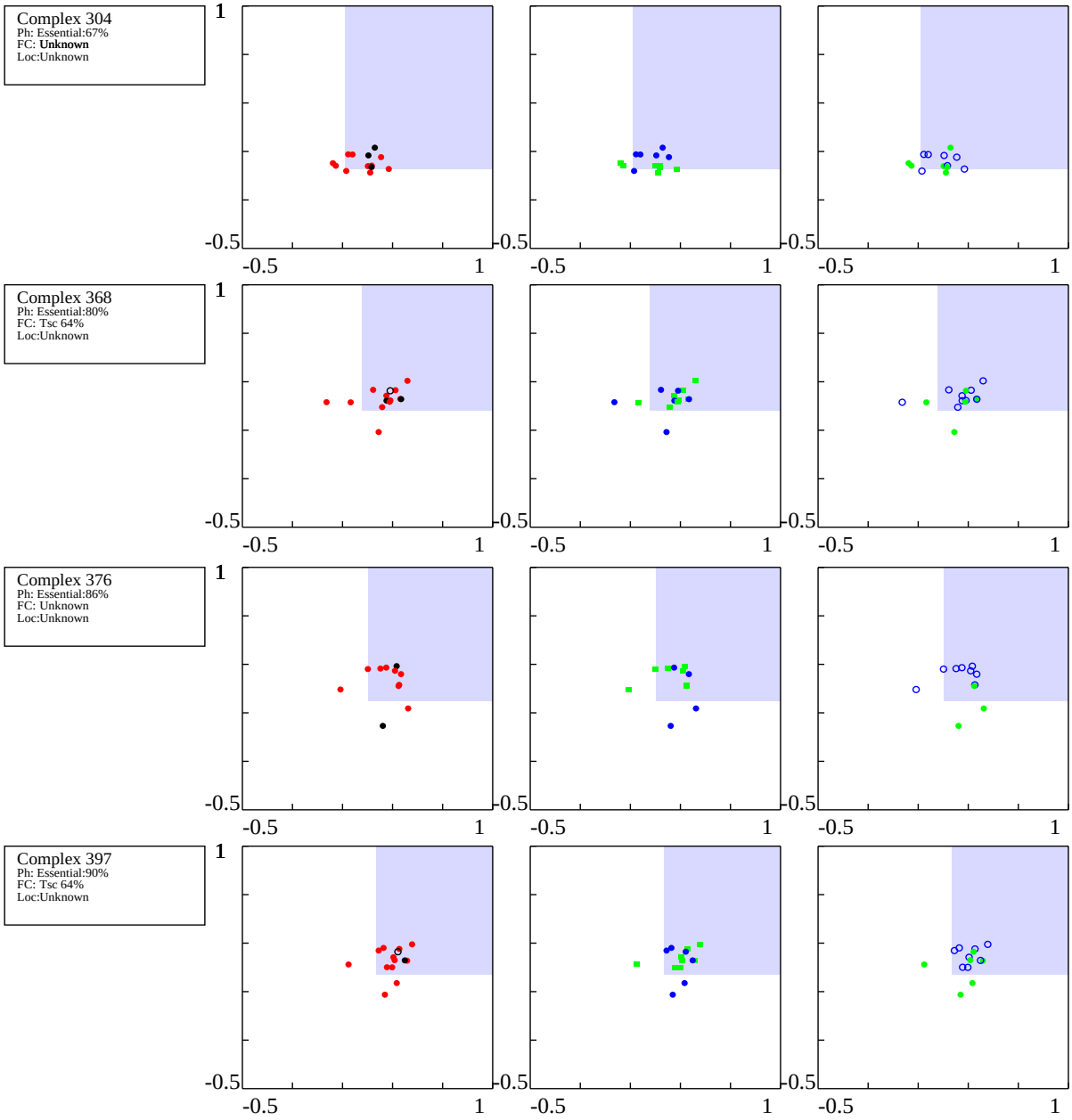
-0.5
-0.5
1


Complex 304
Ph: Essential:67%
FC: Unknown
Loc:Unknown
Complex 368
Ph: Essential:80%
FC: Tsc 64%
Loc:Unknown
Complex 376
Ph: Essential:86%
FC: Unknown
Loc:Unknown
Complex 397
Ph: Essential:90%
FC: Tsc 64%
Loc:Unknown
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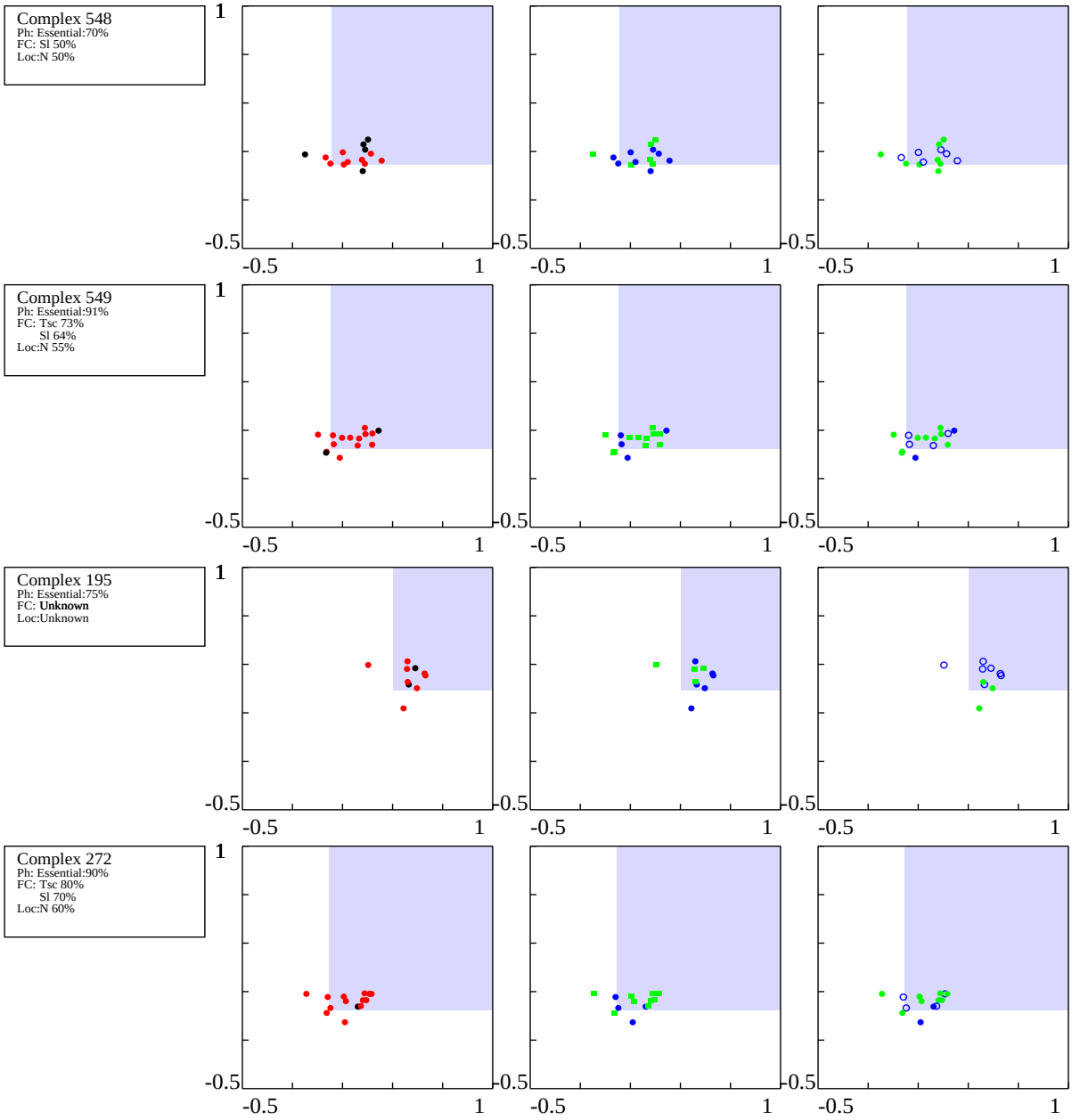
-0.5
-0.5
1


Complex 548
Ph: Essential:70%
FC: Sl 50%
Loc:N 50%
Complex 549
Ph: Essential:91%
FC: Tsc 73%
Sl 64%
Loc:N 55%
Complex 195
Ph: Essential:75%
FC: Unknown
Loc:Unknown
Complex 272
Ph: Essential:90%
FC: Tsc 80%
Sl 70%
Loc:N 60%
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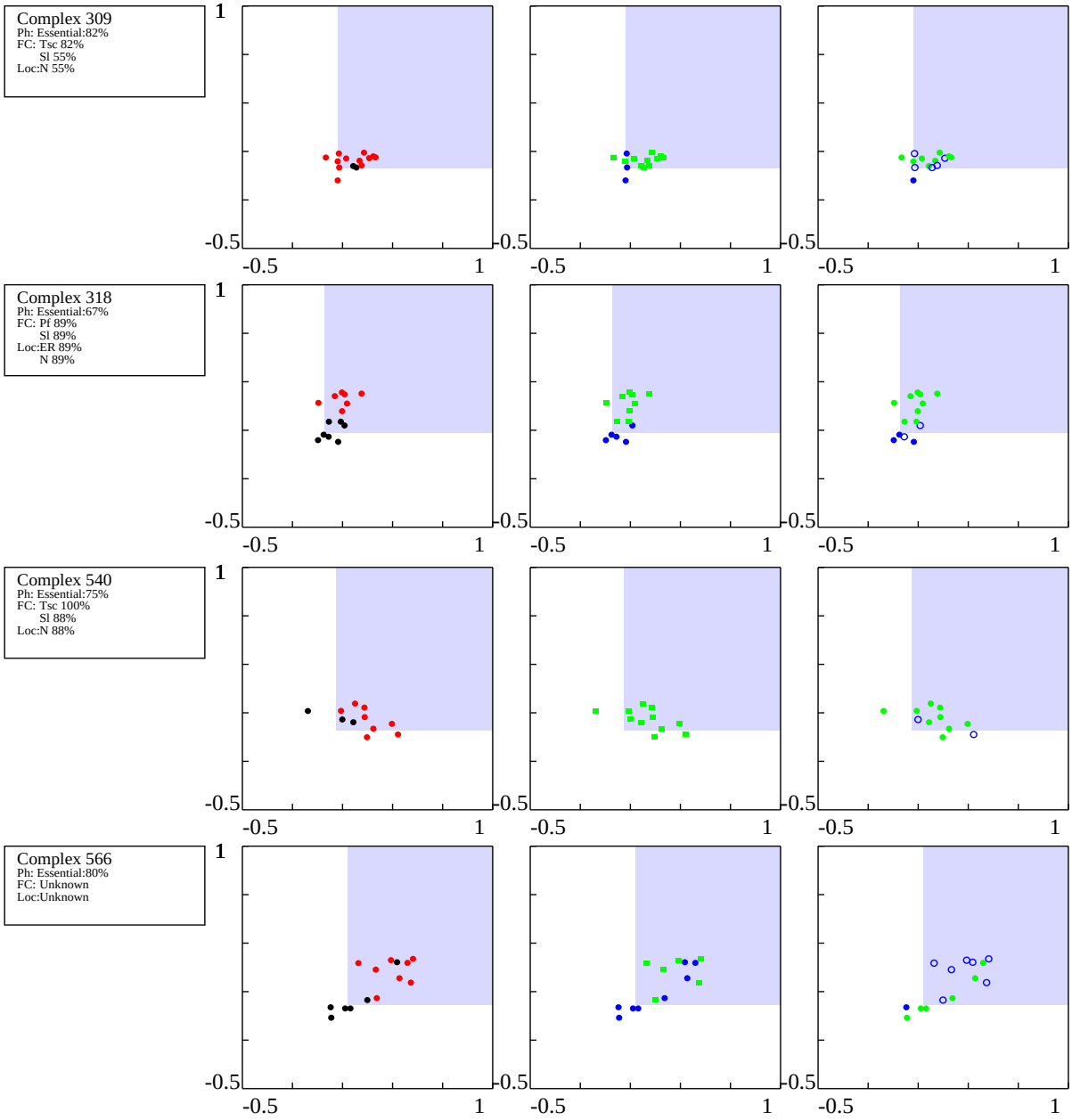
-0.5
1


Complex 309
Ph: Essential:82%
FC: Tsc 82%
Sl 55%
Loc:N 55%
Complex 318
Ph: Essential:67%
FC: Pf 89%
Sl 89%
Loc:ER 89%
N 89%
Complex 540
Ph: Essential:75%
FC: Tsc 100%
Sl 88%
Loc:N 88%
Complex 566
Ph: Essential:80%
FC: Unknown
Loc:Unknown
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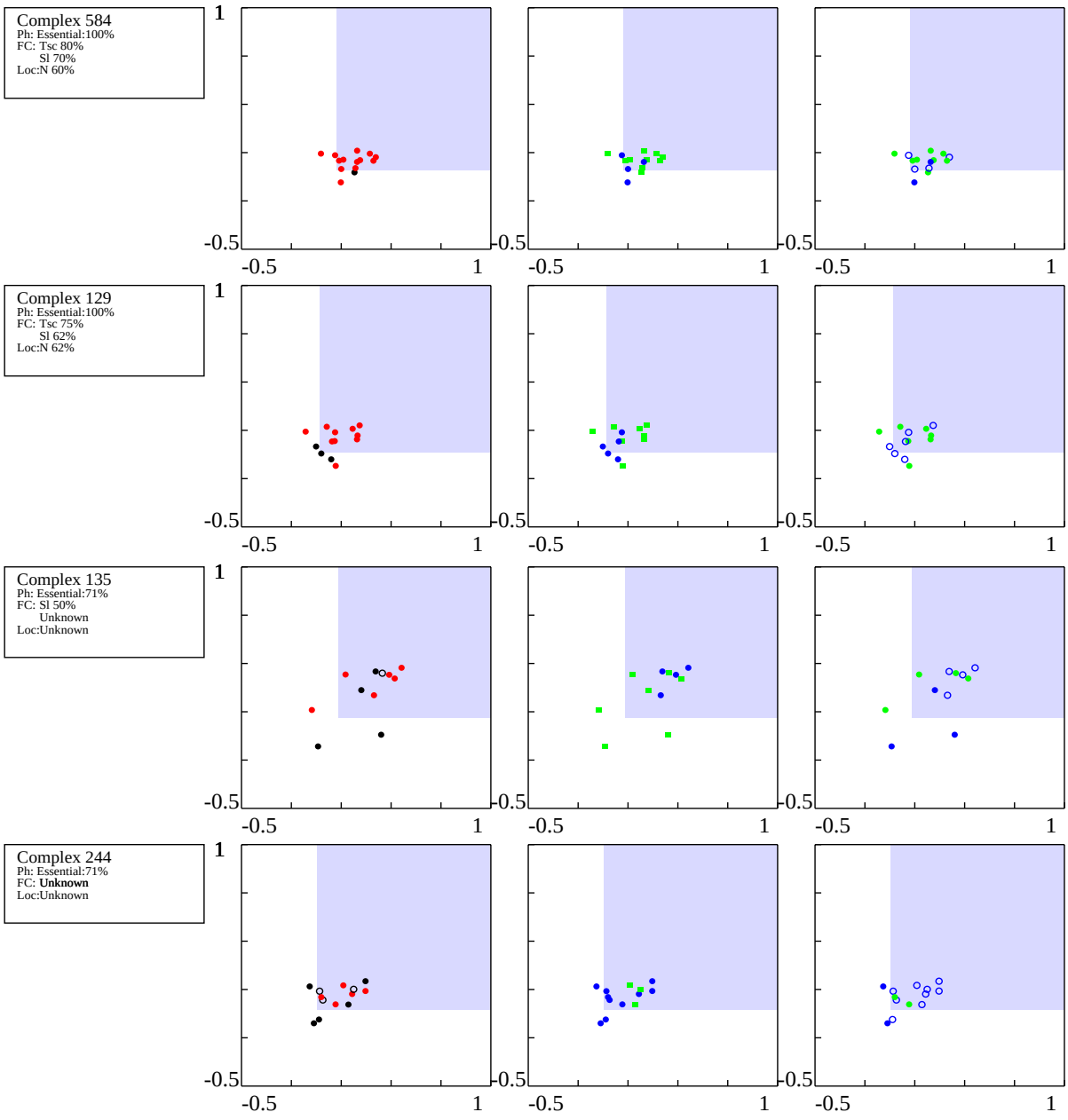
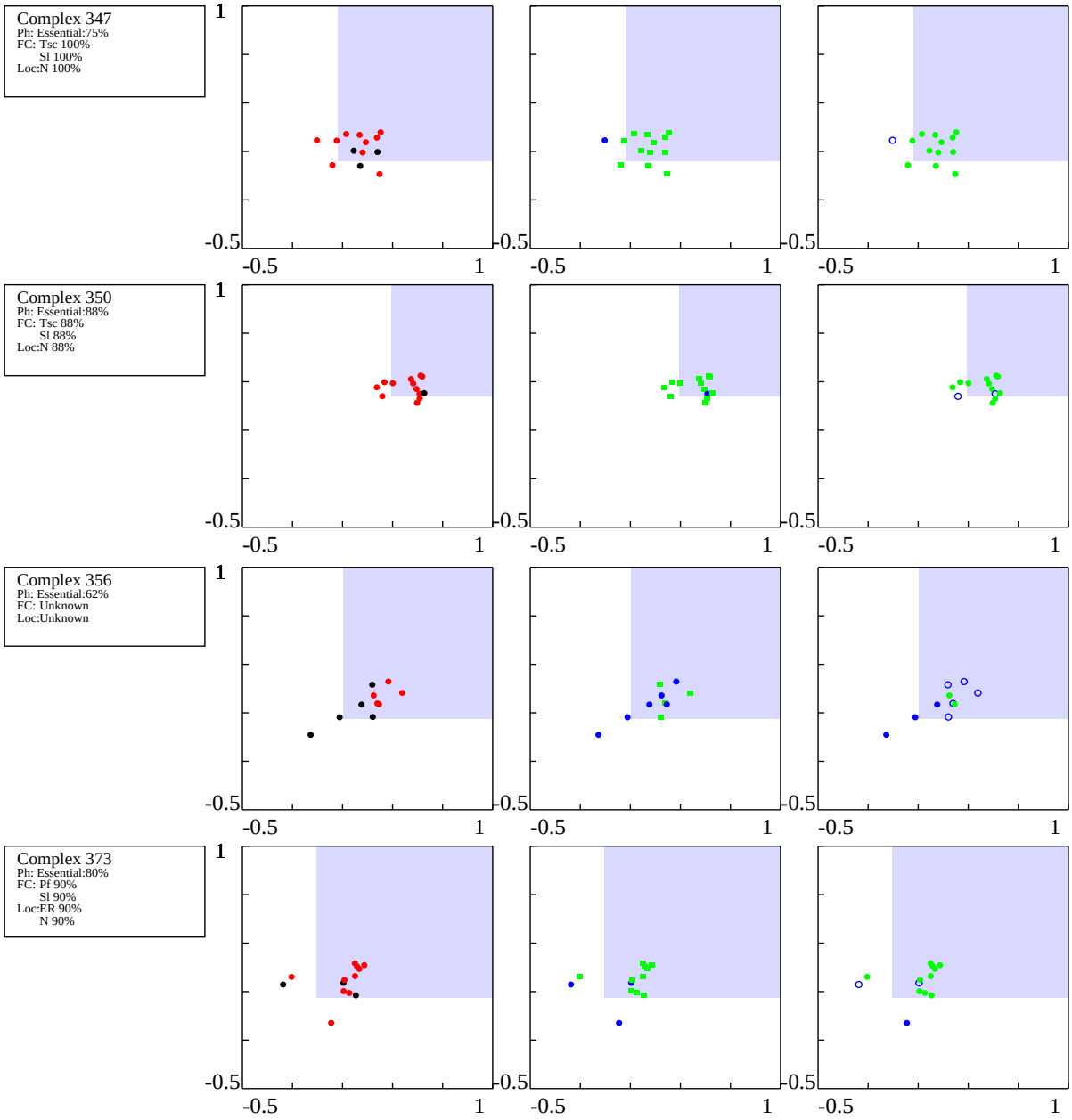
-0.5
-0.5
1


Complex 584
Ph: Essential:100%
FC: Tsc 80%
Sl 70%
Loc:N 60%
Complex 129
Ph: Essential:100%
FC: Tsc 75%
Sl 62%
Loc:N 62%
Complex 135
Ph: Essential:71%
FC: Sl 50%
Unknown
Loc:Unknown
Complex 244
Ph: Essential:71%
FC: Unknown
Loc:Unknown
1
-0.5
1


Complex 347
Ph: Essential:75%
FC: Tsc 100%
Sl 100%
Loc:N 100%
Complex 350
Ph: Essential:88%
FC: Tsc 88%
Sl 88%
Loc:N 88%
Complex 356
Ph: Essential:62%
FC: Unknown
Loc:Unknown
Complex 373
Ph: Essential:80%
FC: Pf 90%
Sl 90%
Loc:ER 90%
N 90%
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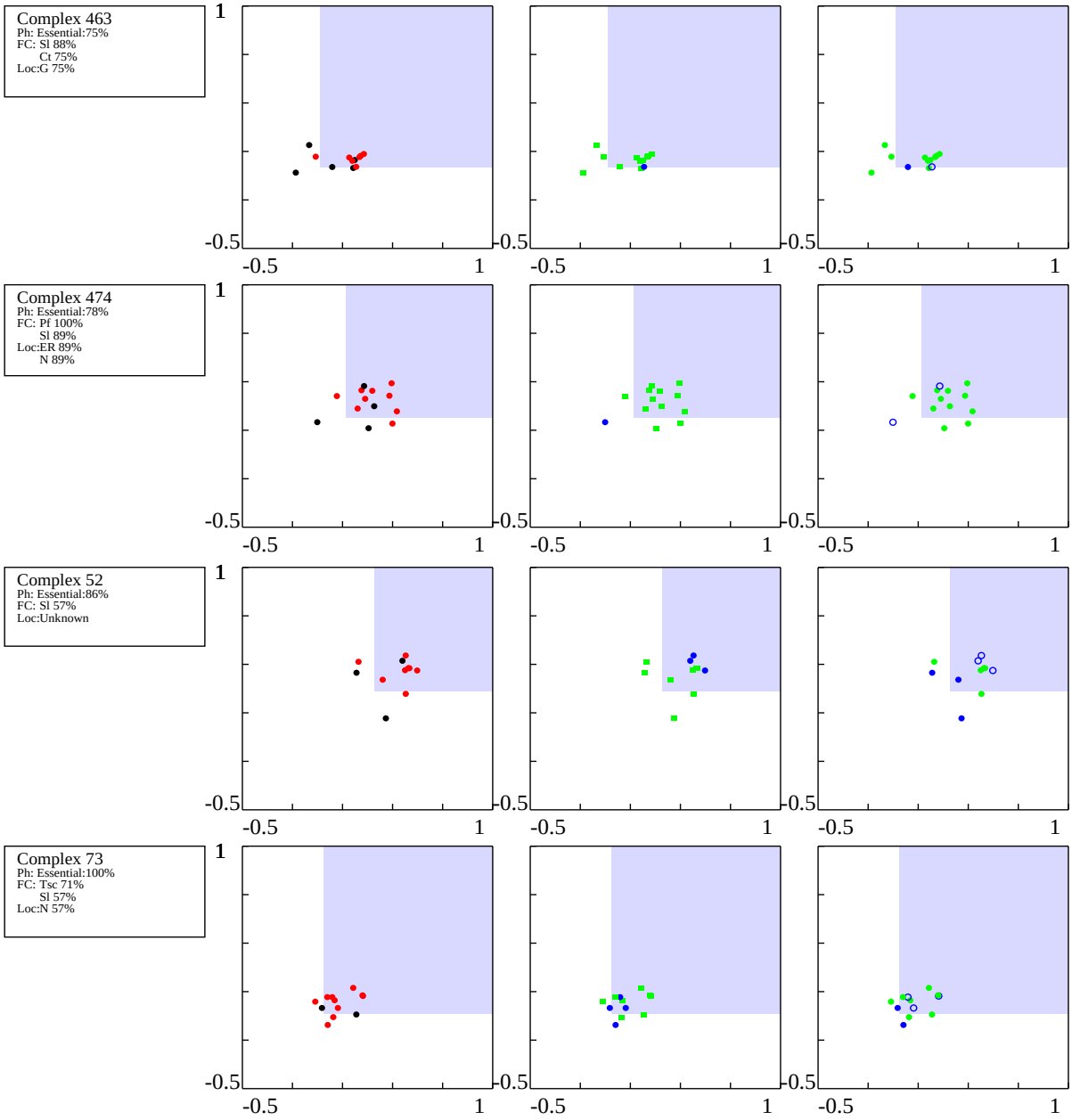
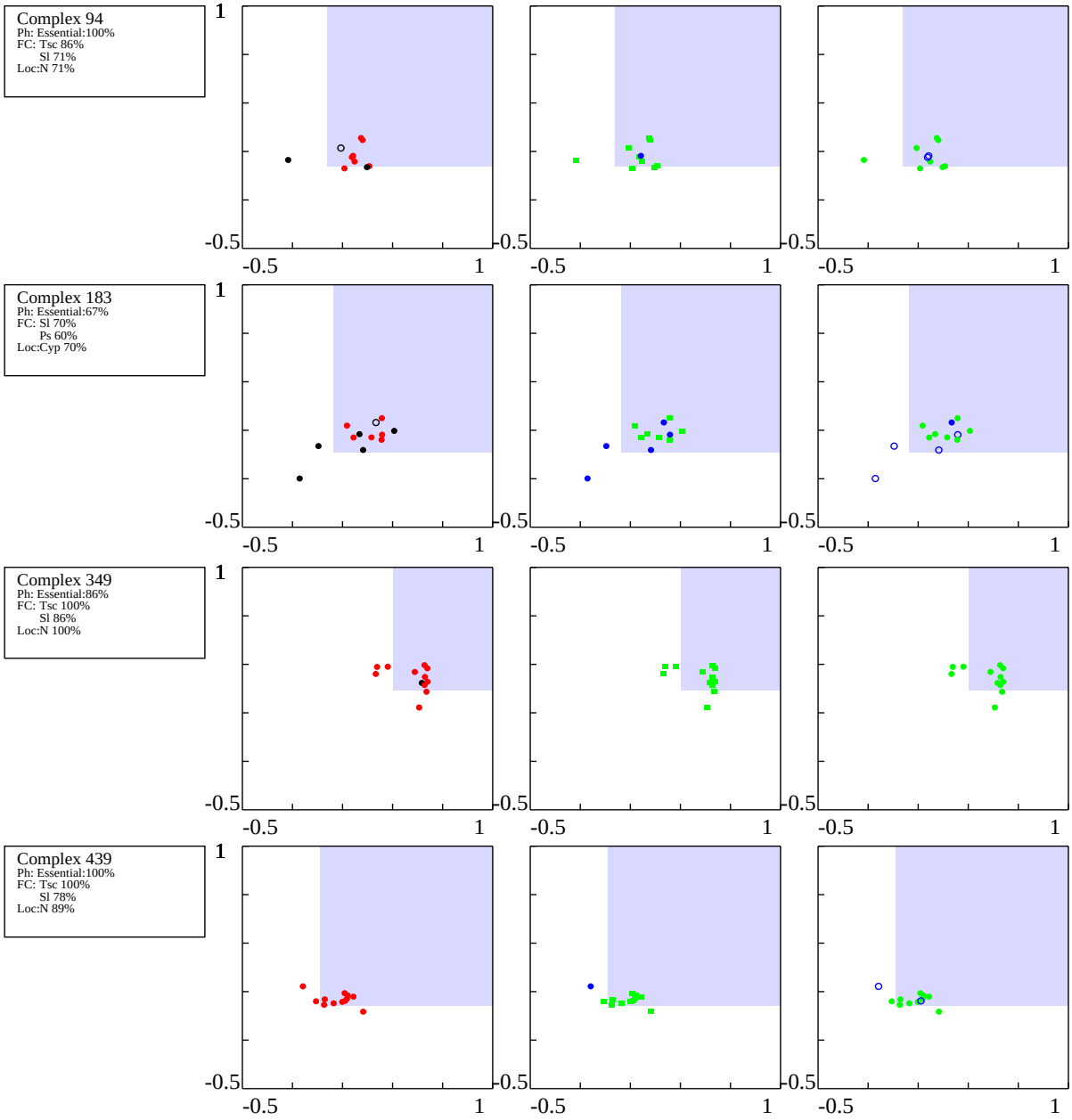
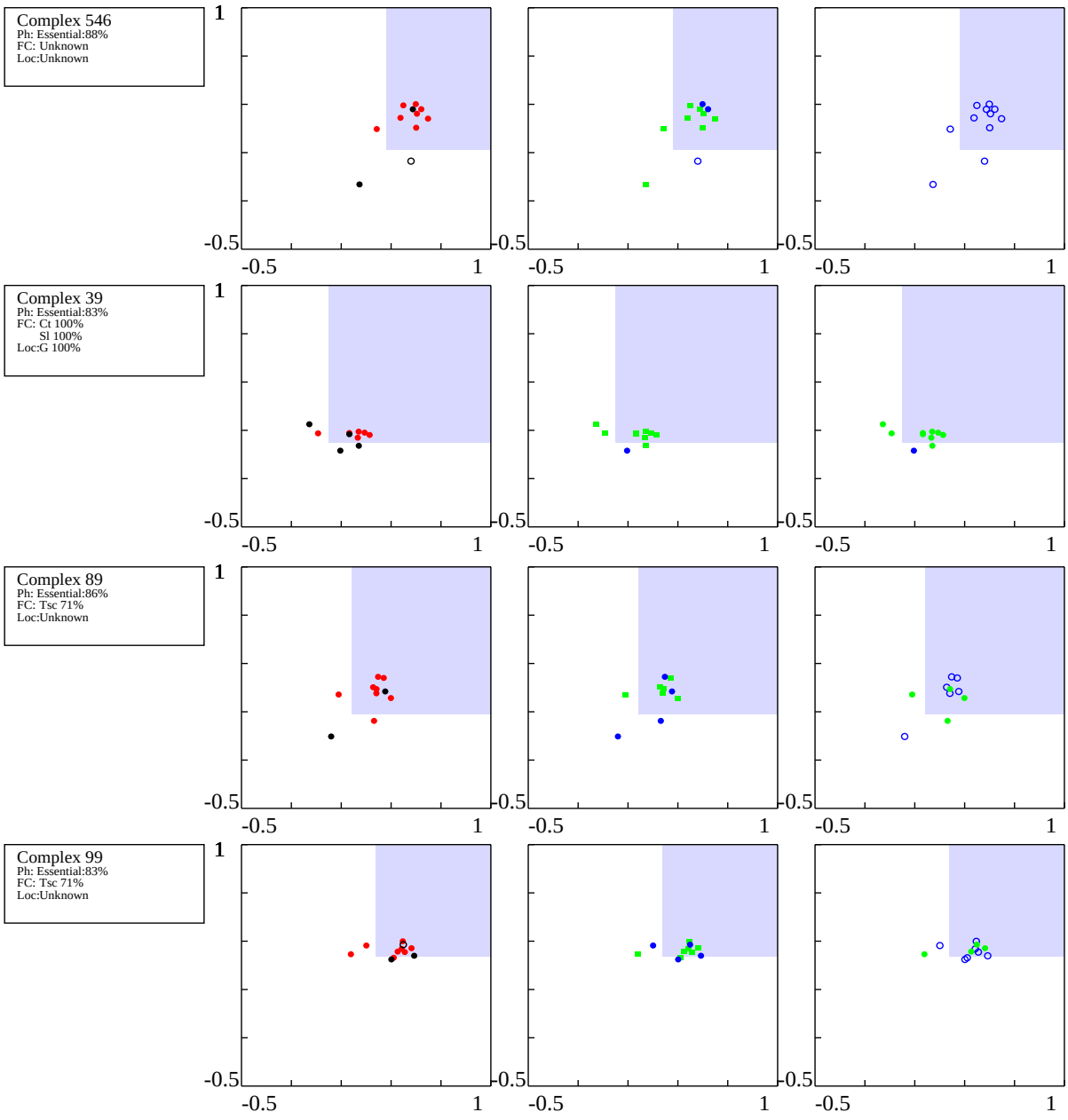
-0.5
1


Complex 463
Ph: Essential:75%
FC: Sl 88%
Ct 75%
Loc:G 75%
Complex 474
Ph: Essential:78%
FC: Pf 100%
Sl 89%
Loc:ER 89%
N 89%
Complex 52
Ph: Essential:86%
FC: Sl 57%
Loc:Unknown
Complex 73
Ph: Essential:100%
FC: Tsc 71%
Sl 57%
Loc:N 57%
1
-0.5
-0.5
1


Complex 94
Ph: Essential:100%
FC: Tsc 86%
Sl 71%
Loc:N 71%
Complex 183
Ph: Essential:67%
FC: Sl 70%
Ps 60%
Loc:Cyp 70%
Complex 349
Ph: Essential:86%
FC: Tsc 100%
Sl 86%
Loc:N 100%
Complex 439
Ph: Essential:100%
FC: Tsc 100%
Sl 78%
Loc:N 89%
1
-0.5
-0.5
1


Complex 546
Ph: Essential:88%
FC: Unknown
Loc:Unknown
Complex 39
Ph: Essential:83%
FC: Ct 100%
Sl 100%
Loc:G 100%
Complex 89
Ph: Essential:86%
FC: Tsc 71%
Loc:Unknown
Complex 99
Ph: Essential:83%
FC: Tsc 71%
Loc:Unknown
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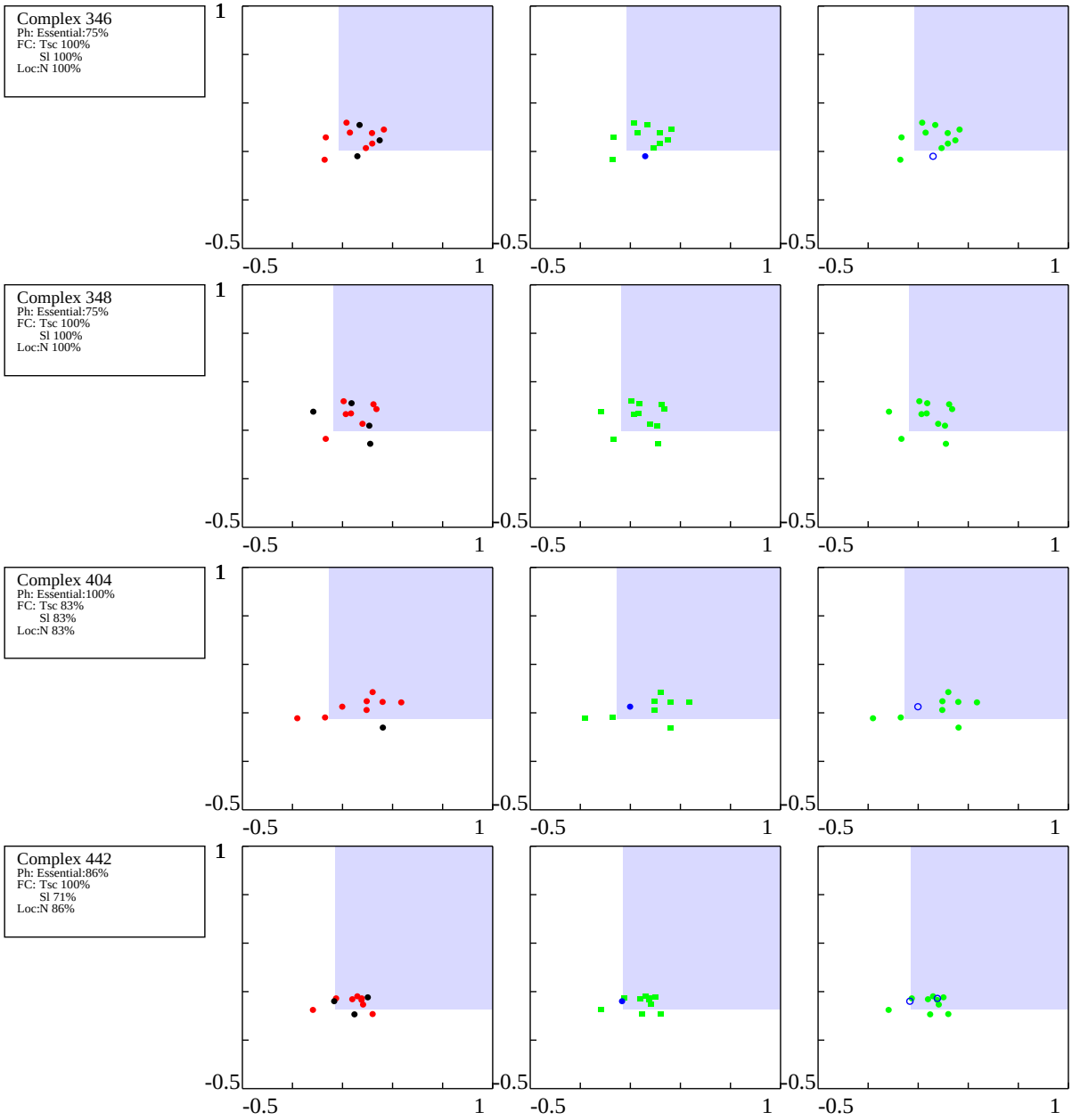
-0.5
1
-0.5


Complex 346
Ph: Essential:75%
FC: Tsc 100%
Sl 100%
Loc:N 100%
Complex 348
Ph: Essential:75%
FC: Tsc 100%
Sl 100%
Loc:N 100%
Complex 404
Ph: Essential:100%
FC: Tsc 83%
Sl 83%
Loc:N 83%
Complex 442
Ph: Essential:86%
FC: Tsc 100%
Sl 71%
Loc:N 86%
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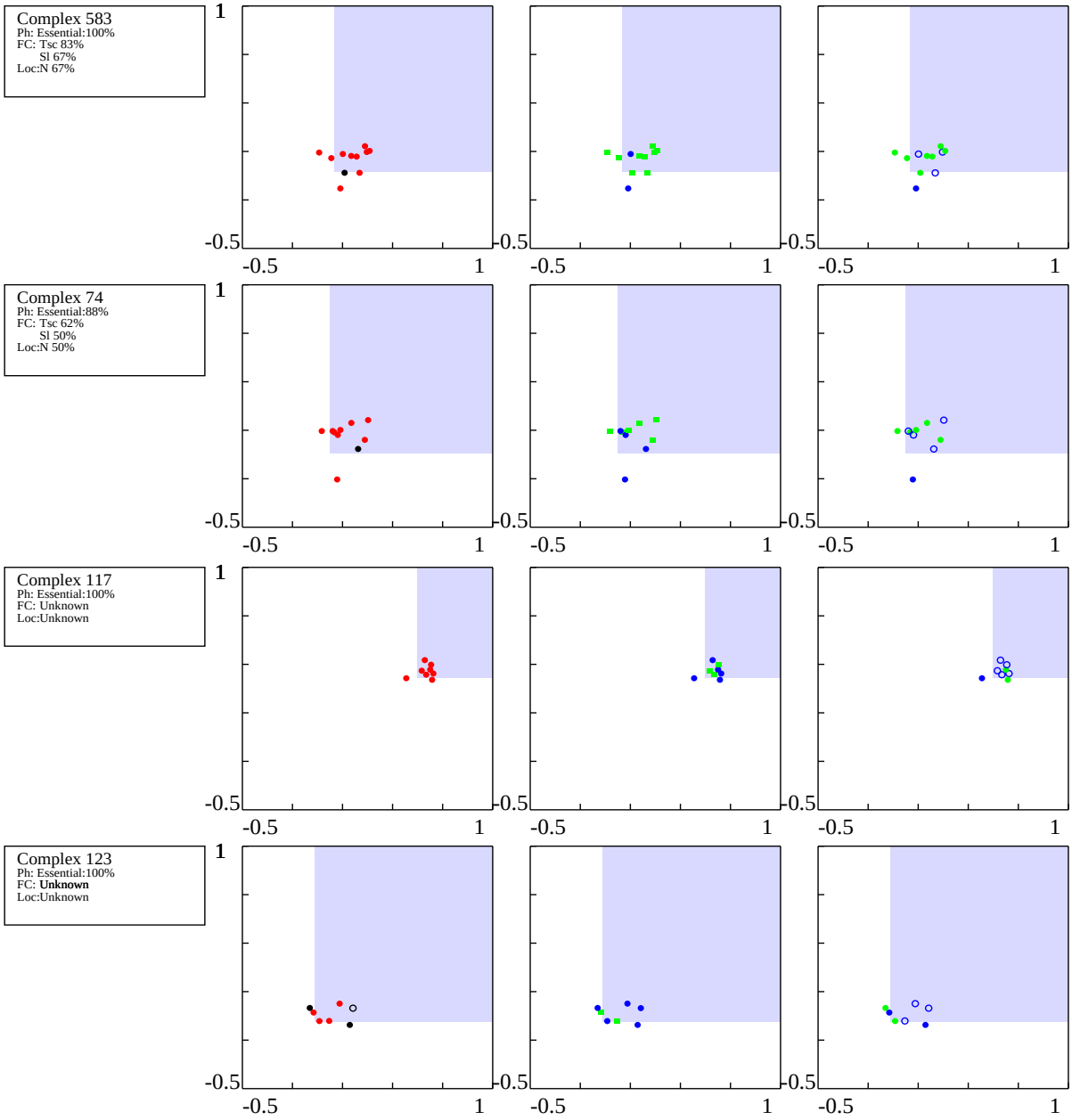
-0.5
-0.5
1


Complex 583
Ph: Essential:100%
FC: Tsc 83%
Sl 67%
Loc:N 67%
Complex 74
Ph: Essential:88%
FC: Tsc 62%
Sl 50%
Loc:N 50%
Complex 117
Ph: Essential:100%
FC: Unknown
Loc:Unknown
Complex 123
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FC: Unknown
Loc:Unknown
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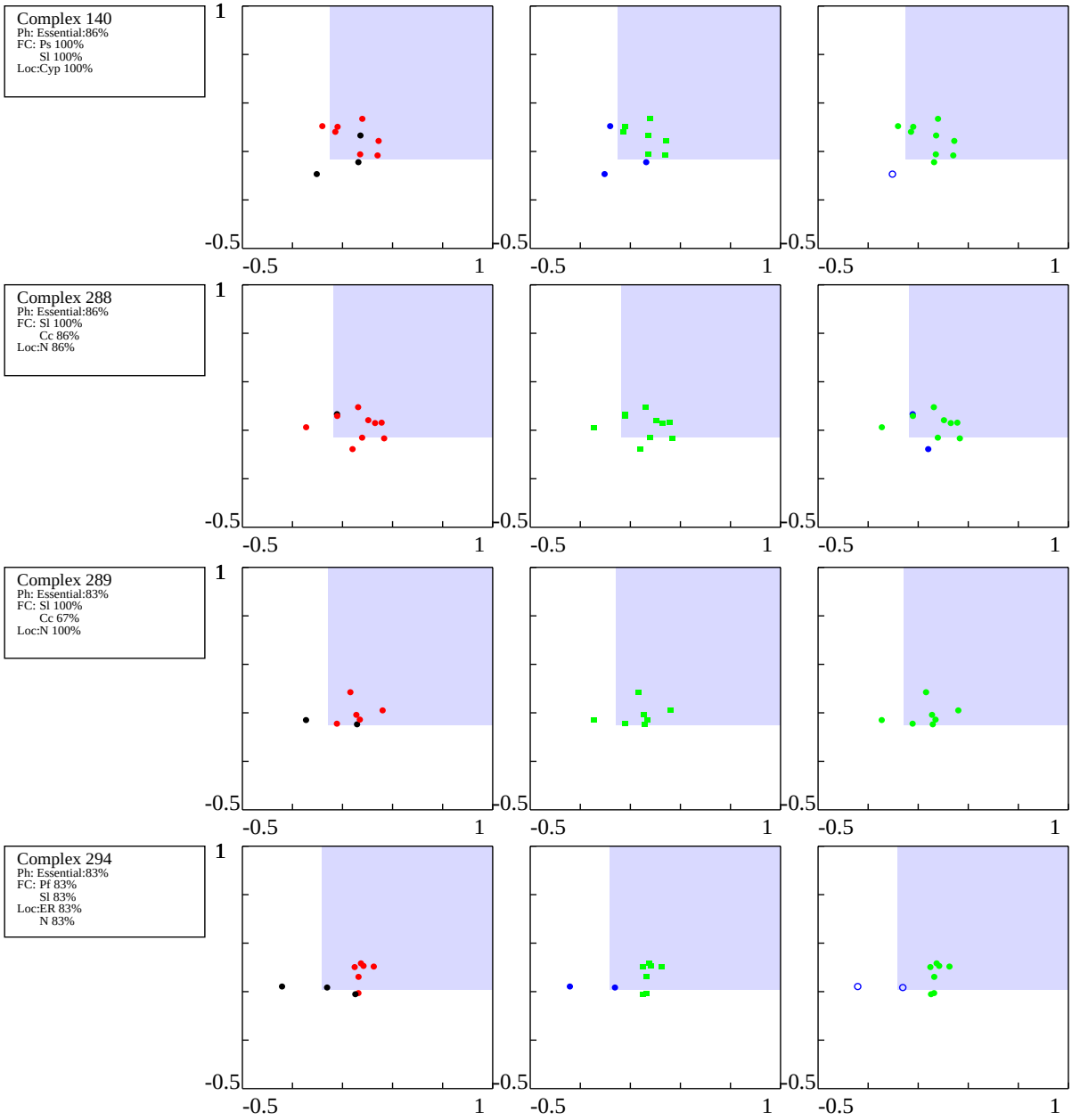
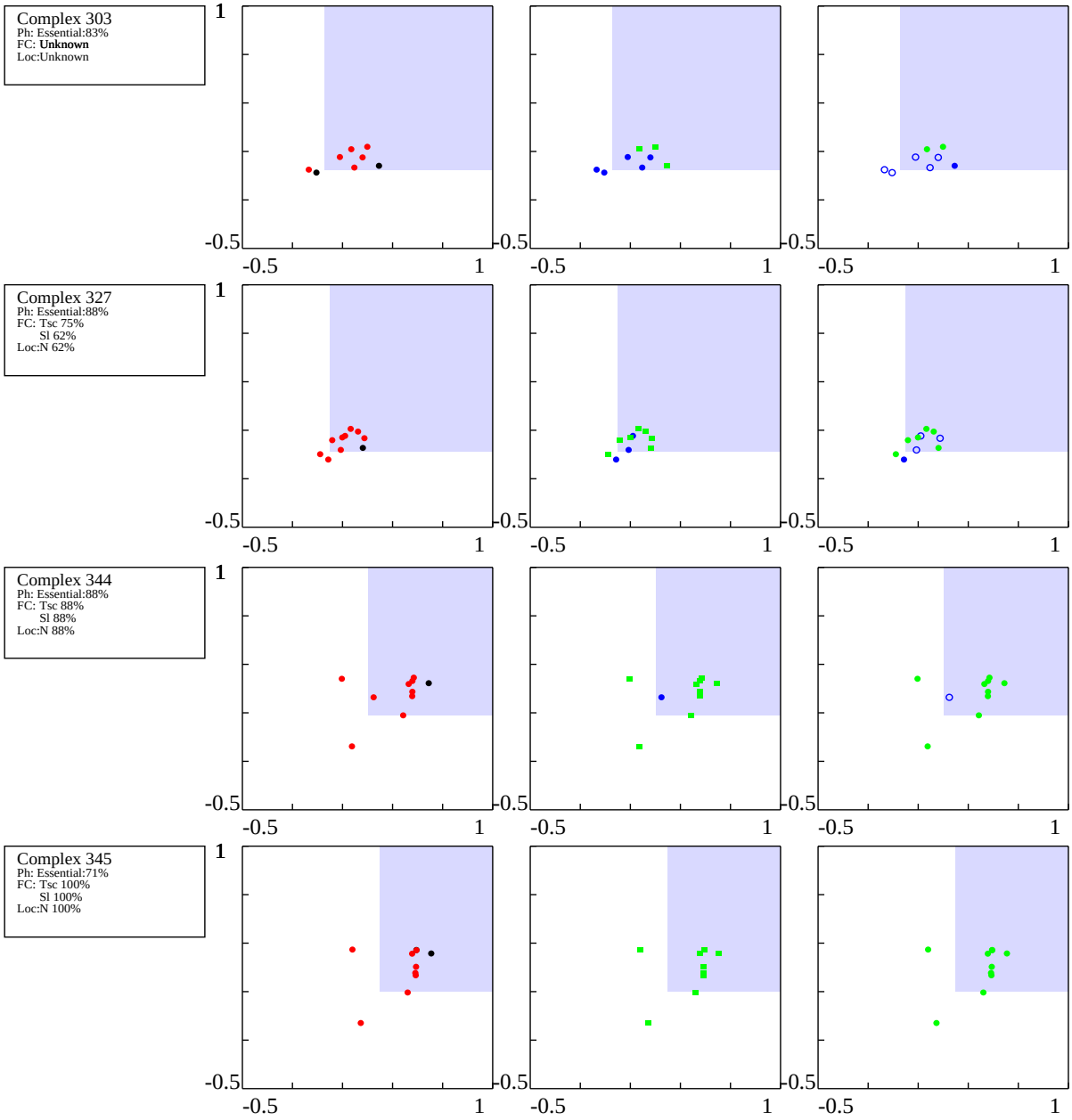
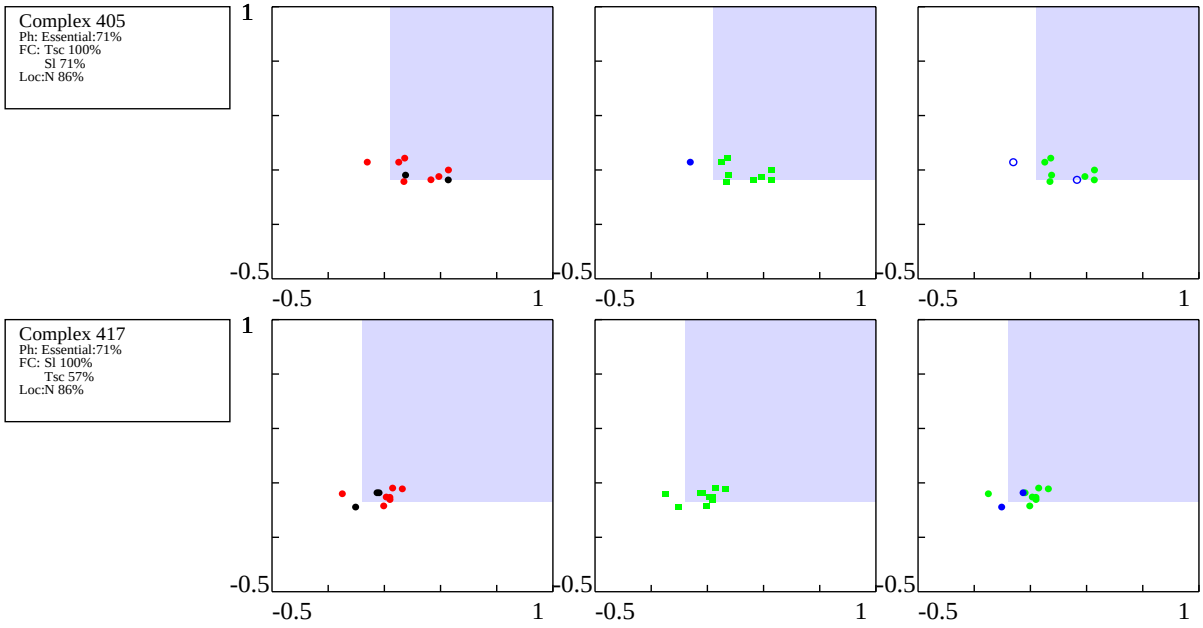
-0.5
1


Complex 140
Ph: Essential:86%
FC: Ps 100%
Sl 100%
Loc:Cyp 100%
Complex 288
Ph: Essential:86%
FC: Sl 100%
Cc 86%
Loc:N 86%
Complex 289
Ph: Essential:83%
FC: Sl 100%
Cc 67%
Loc:N 100%
Complex 294
Ph: Essential:83%
FC: Pf 83%
Sl 83%
Loc:ER 83%
N 83%
1
-0.5
-0.5
1

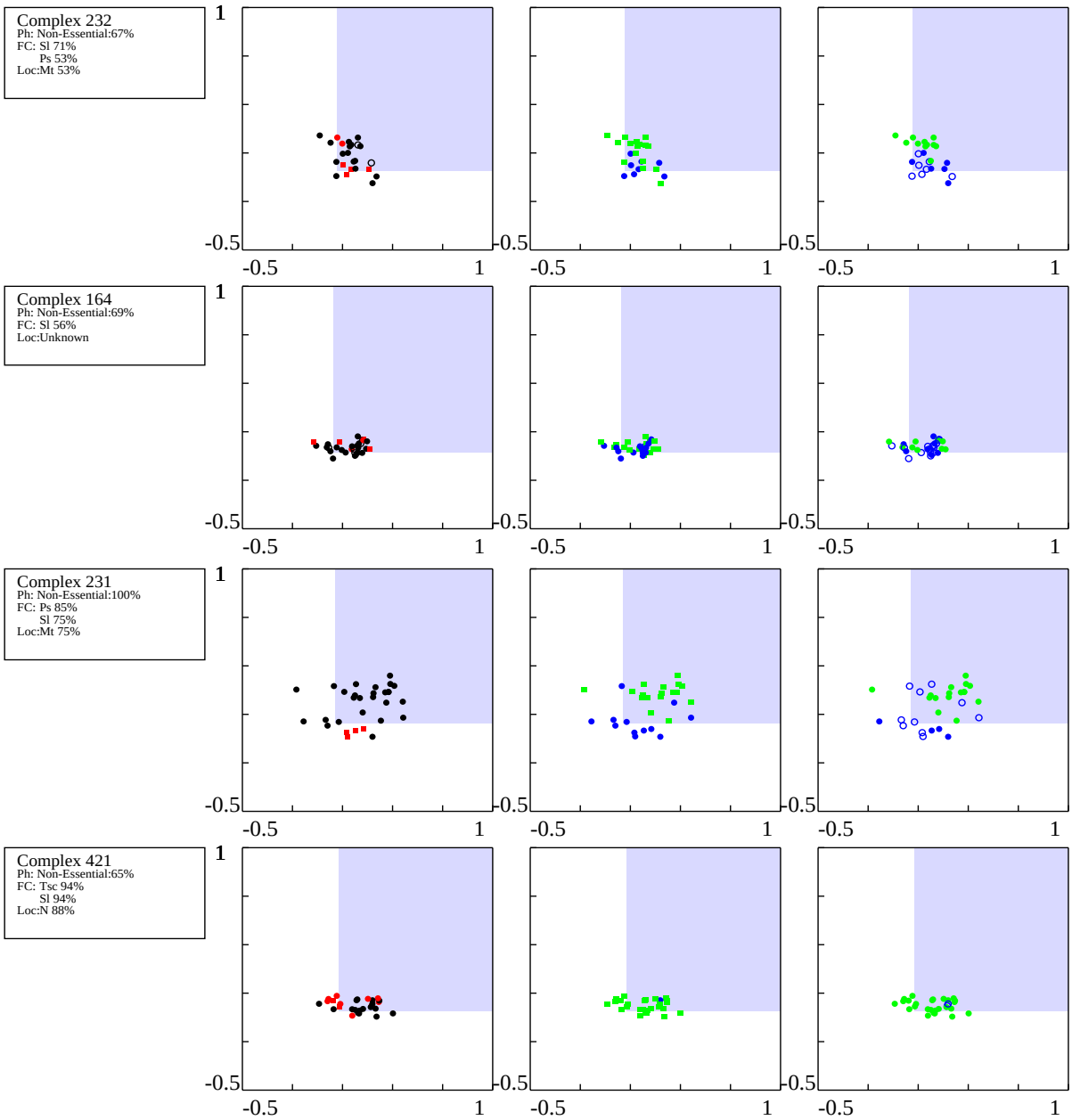

Complex 303
Ph: Essential:83%
FC: Unknown
Loc:Unknown
Complex 327
Ph: Essential:88%
FC: Tsc 75%
Sl 62%
Loc:N 62%
Complex 344
Ph: Essential:88%
FC: Tsc 88%
Sl 88%
Loc:N 88%
Complex 345
Ph: Essential:71%
FC: Tsc 100%
Sl 100%
Loc:N 100%
1
-0.5
-0.5
1

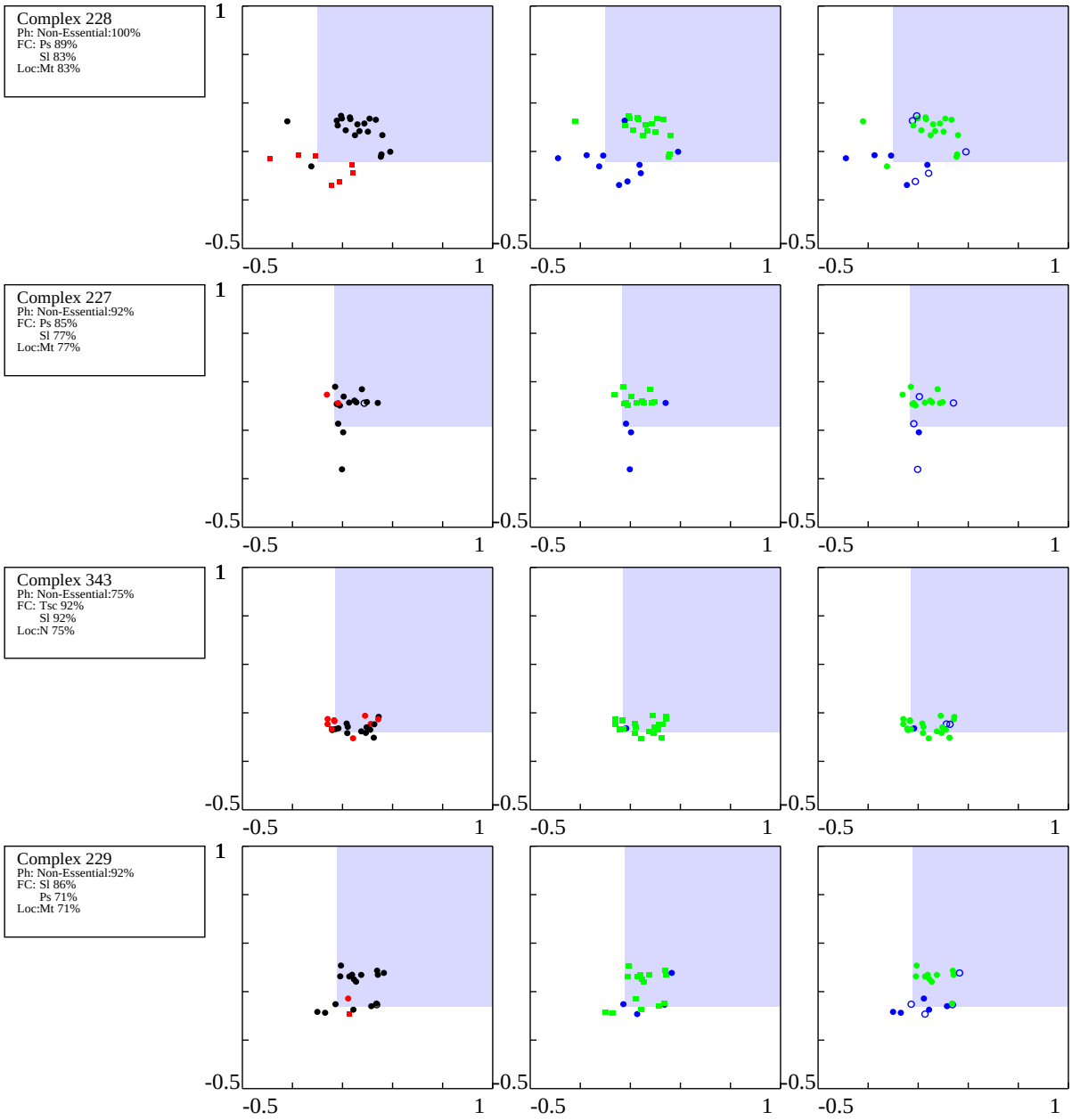

Complex 405
Ph: Essential:71%
FC: Tsc 100%
Sl 71%
Loc:N 86%
Complex 417
Ph: Essential:71%
FC: Sl 100%
Tsc 57%
Loc:N 86%
1
-0.5
-0.5
1

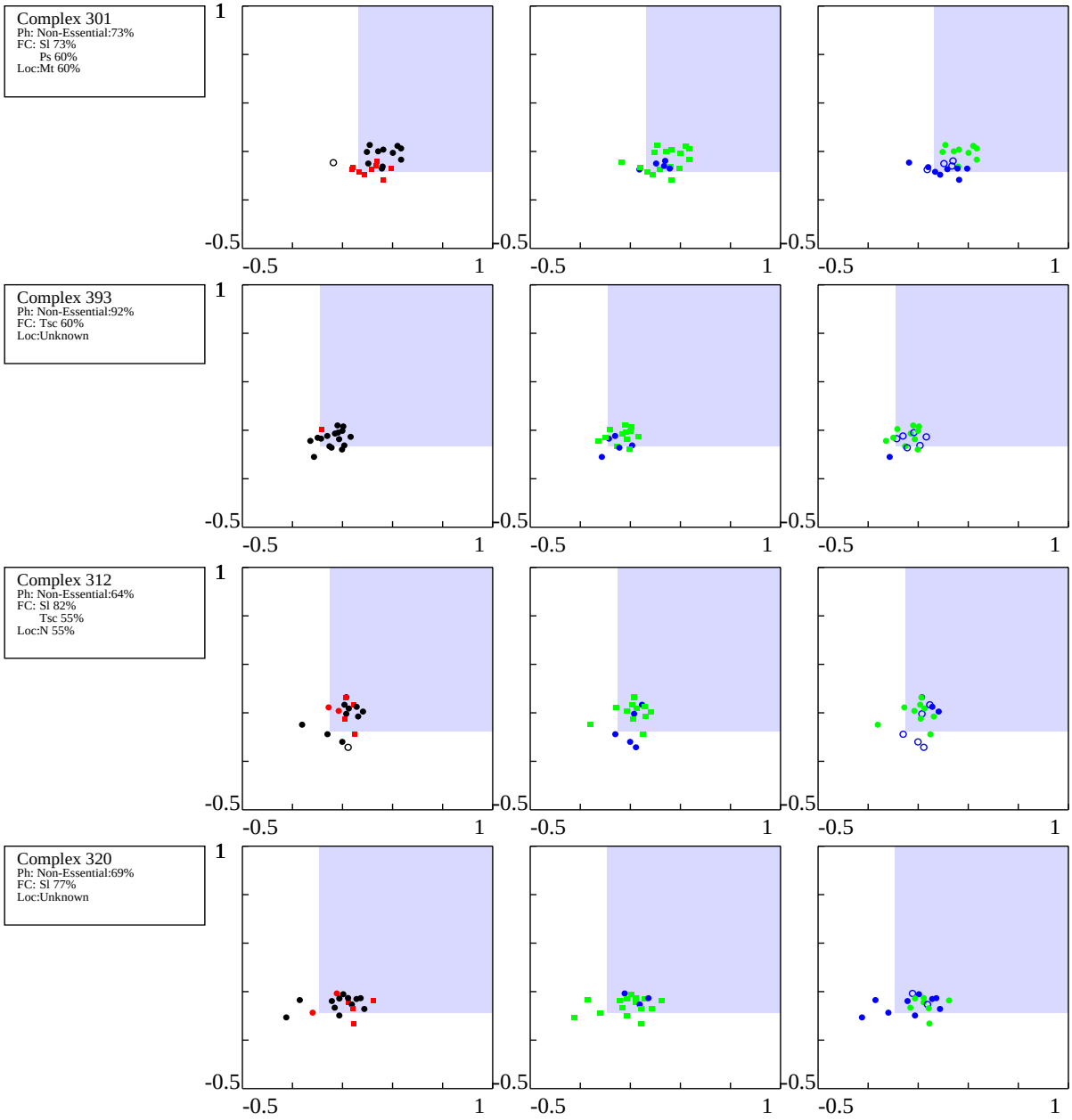
I(c). Non-Essential Complexes from the Gavin *et al.* database

This table offers a detailed summary of all complexes that have been found non-essential (defined as complexes for which more than 60% of the core proteins with known deletion phenotype are non-essential). The complexes are ordered based on their size, the complex with the largest number of protein subunits being shown first, and with the fewest last. We show only complexes with at least 10 protein subunits, the predictions for all other complexes being given in Table I. In the left column for each complex we indicate the predicted phenotype (Ph), which is non-essential for all complexes in this table, together with the fraction of lethal proteins in the core, offering a quantitative measure of the confidence level of the prediction. In addition, we list the predicted functional category of the complex (Fc). For this we list all functional classes that are shared by at least 50% of the core proteins with known functional classification, giving the percentage of the proteins sharing the specific functional class. Finally, we list our prediction regarding the cellular localization of the complex, together with the percentage of the core proteins sharing the listed cellular localization. If the predicted functional class or cellular localization is marked "unknown", it implies that we did not find a 50% majority regarding the characteristics of the core proteins.

Complex Prediction Deletion Phenotype Functional Classification Cellular Localization




Complex 228
Ph: Non-Essential:100%
FC: Ps 89%
Sl 83%
Loc:Mt 83%
Complex 227
Ph: Non-Essential:92%
FC: Ps 85%
Sl 77%
Loc:Mt 77%
Complex 343
Ph: Non-Essential:75%
FC: Tsc 92%
Sl 92%
Loc:N 75%
Complex 229
Ph: Non-Essential:92%
FC: Sl 86%
Ps 71%
Loc:Mt 71%
1
-0.5
-0.5
1


Complex 301
Ph: Non-Essential:73%
FC: Sl 73%
Ps 60%
Loc:Mt 60%
Complex 393
Ph: Non-Essential:92%
FC: Tsc 60%
Loc:Unknown
Complex 312
Ph: Non-Essential:64%
FC: Sl 82%
Tsc 55%
Loc:N 55%
Complex 320
Ph: Non-Essential:69%
FC: Sl 77%
Loc:Unknown
1
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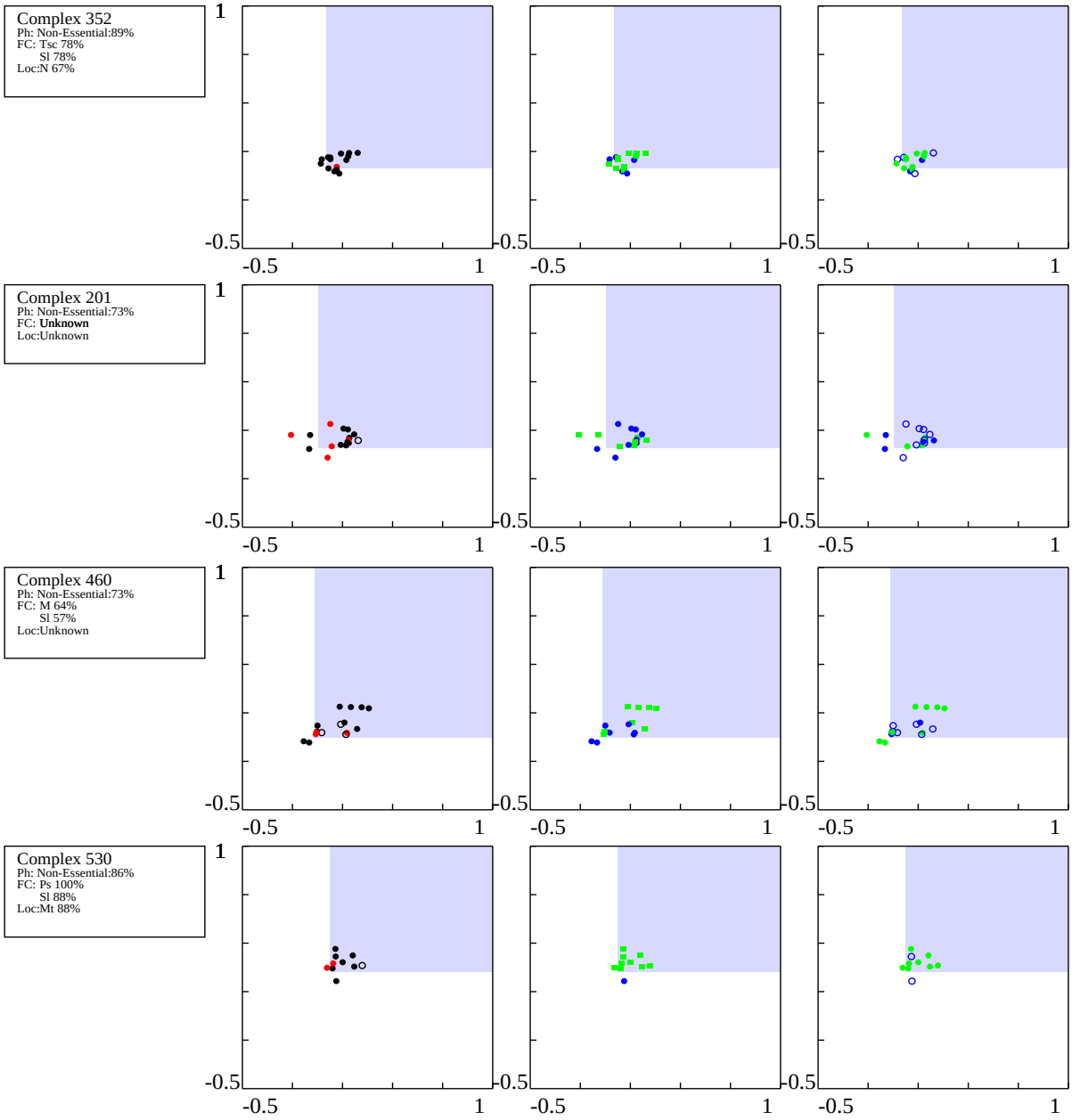
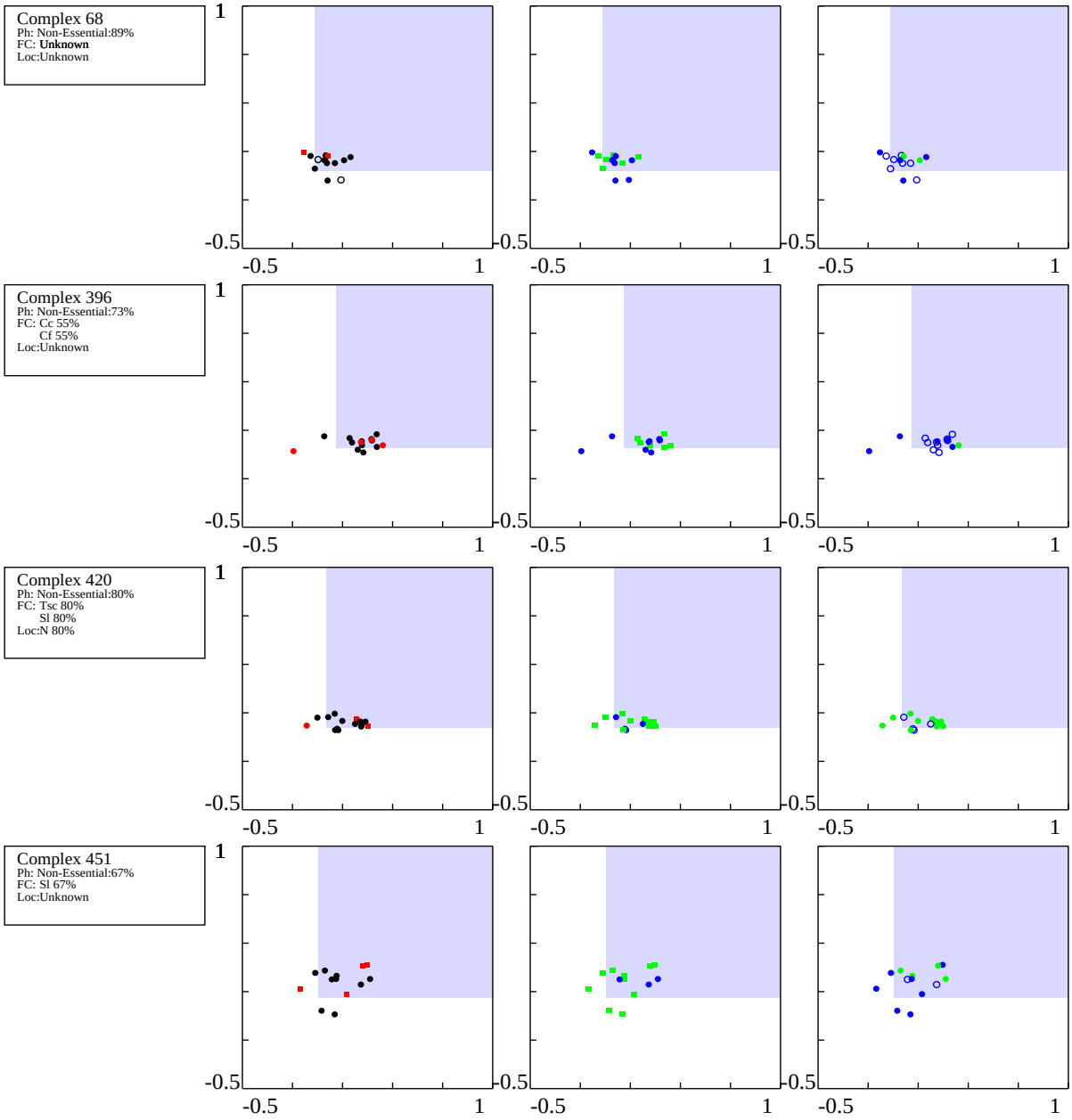
1


Complex 352
Ph: Non-Essential:89%
FC: Tsc 78%
Sl 78%
Loc:N 67%
Complex 201
Ph: Non-Essential:73%
FC: Unknown
Loc:Unknown
Complex 460
Ph: Non-Essential:73%
FC: M 64%
Sl 57%
Loc:Unknown
Complex 530
Ph: Non-Essential:86%
FC: Ps 100%
Sl 88%
Loc:Mt 88%
1
-0.5
1


Complex 68
Ph: Non-Essential:89%
FC: Unknown
Loc:Unknown
Complex 396
Ph: Non-Essential:73%
FC: Cc 55%
Cf 55%
Loc:Unknown
Complex 420
Ph: Non-Essential:80%
FC: Tsc 80%
Sl 80%
Loc:N 80%
Complex 451
Ph: Non-Essential:67%
FC: Sl 67%
Loc:Unknown
1
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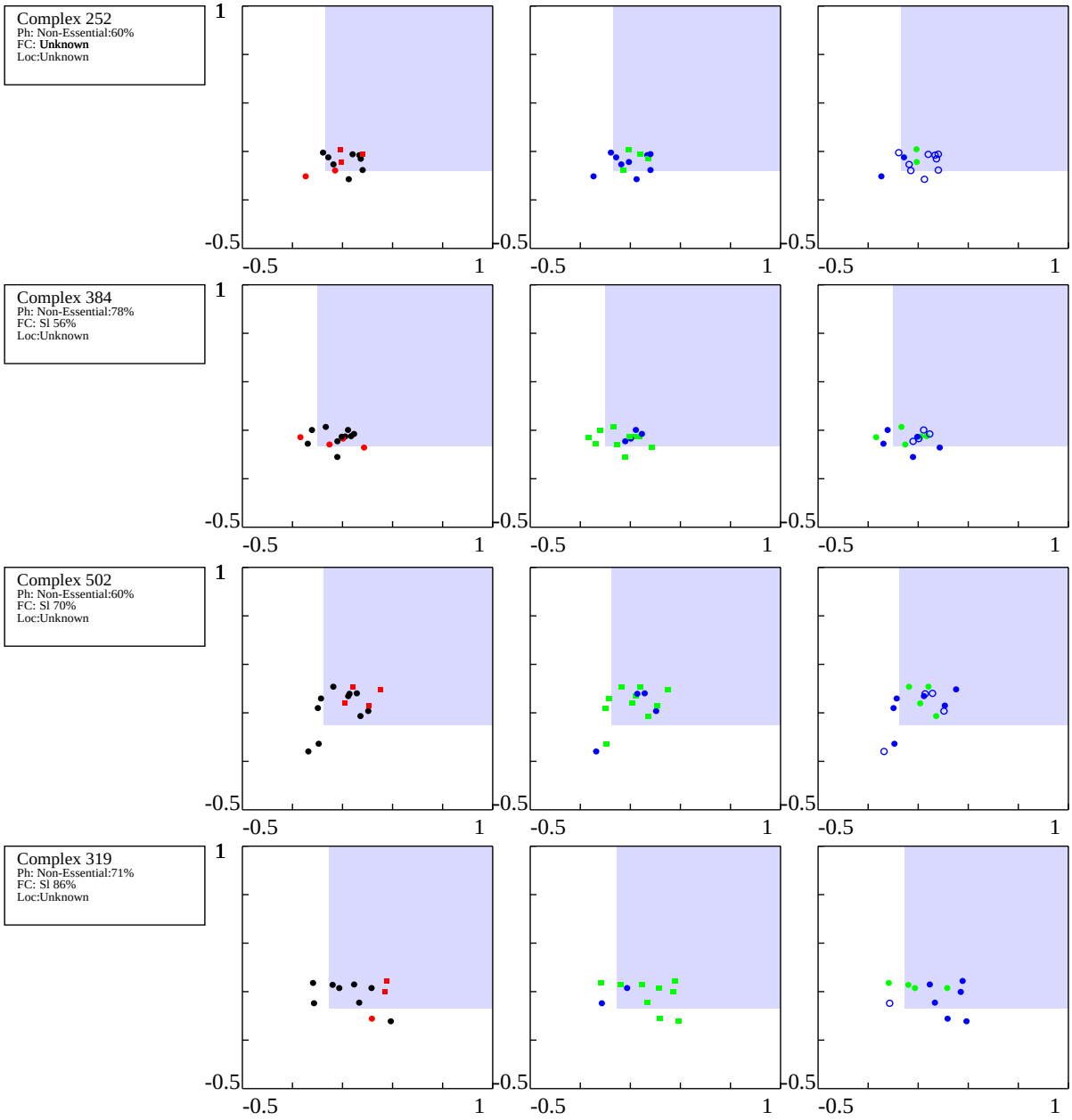
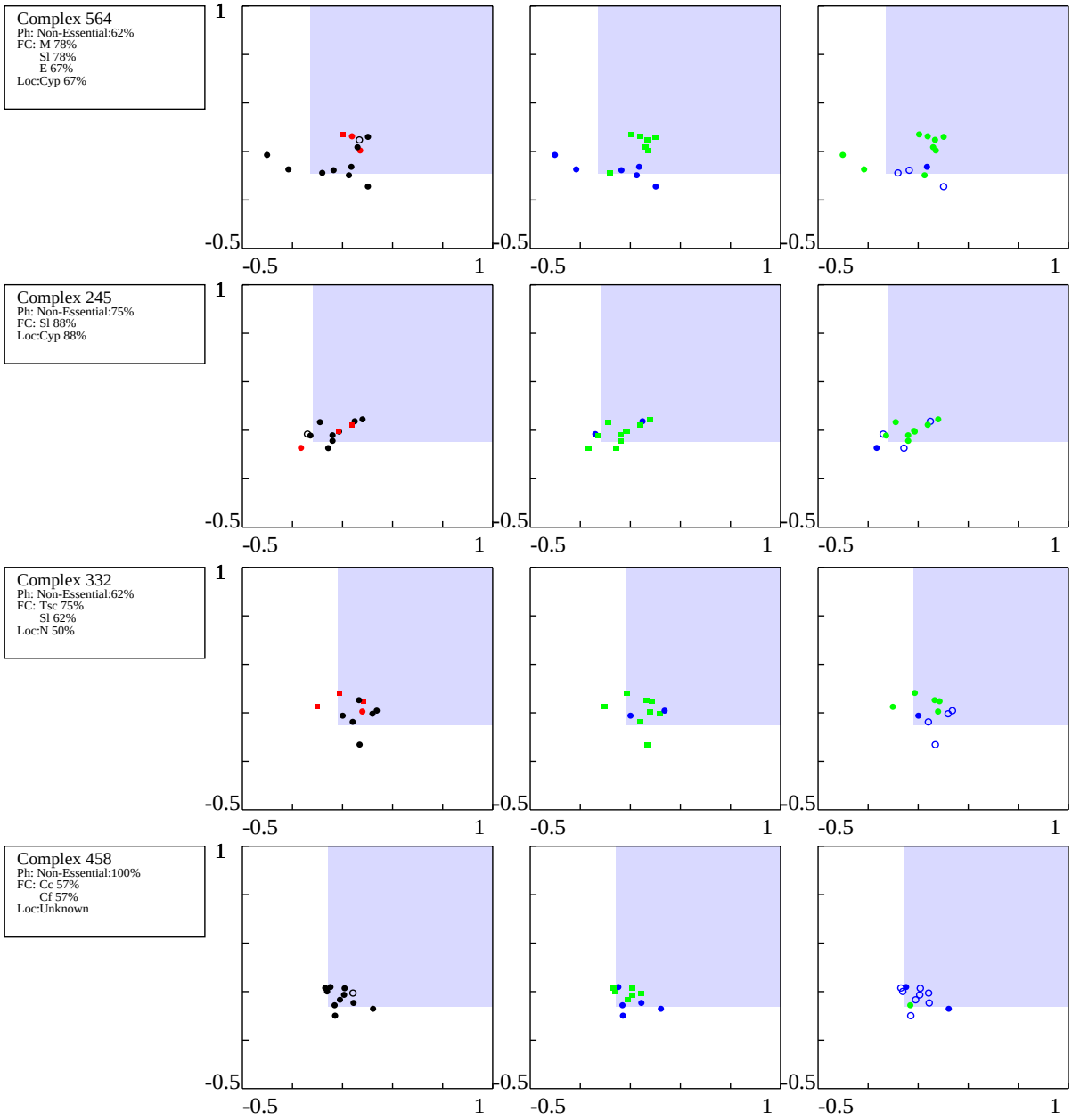
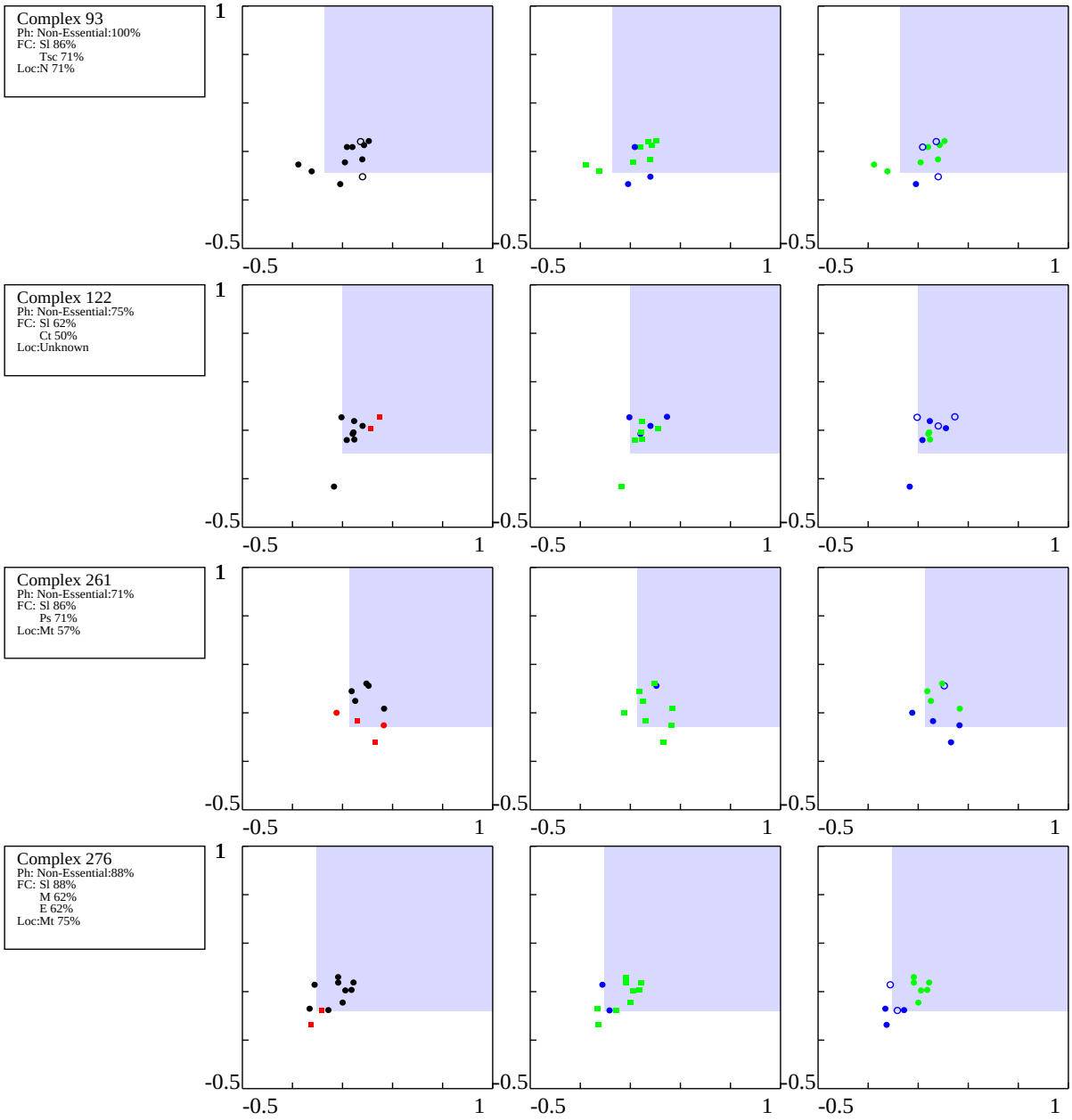
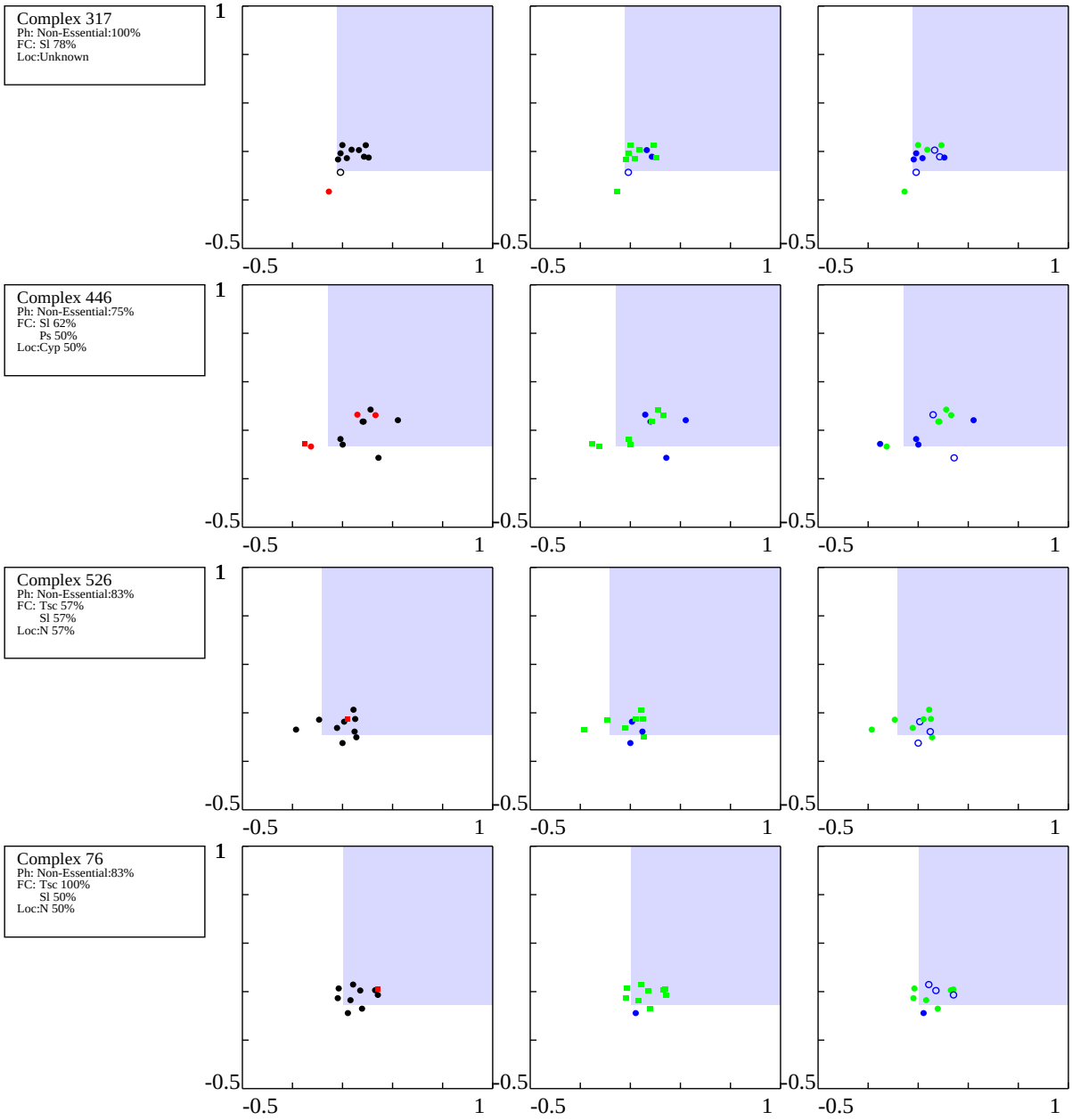
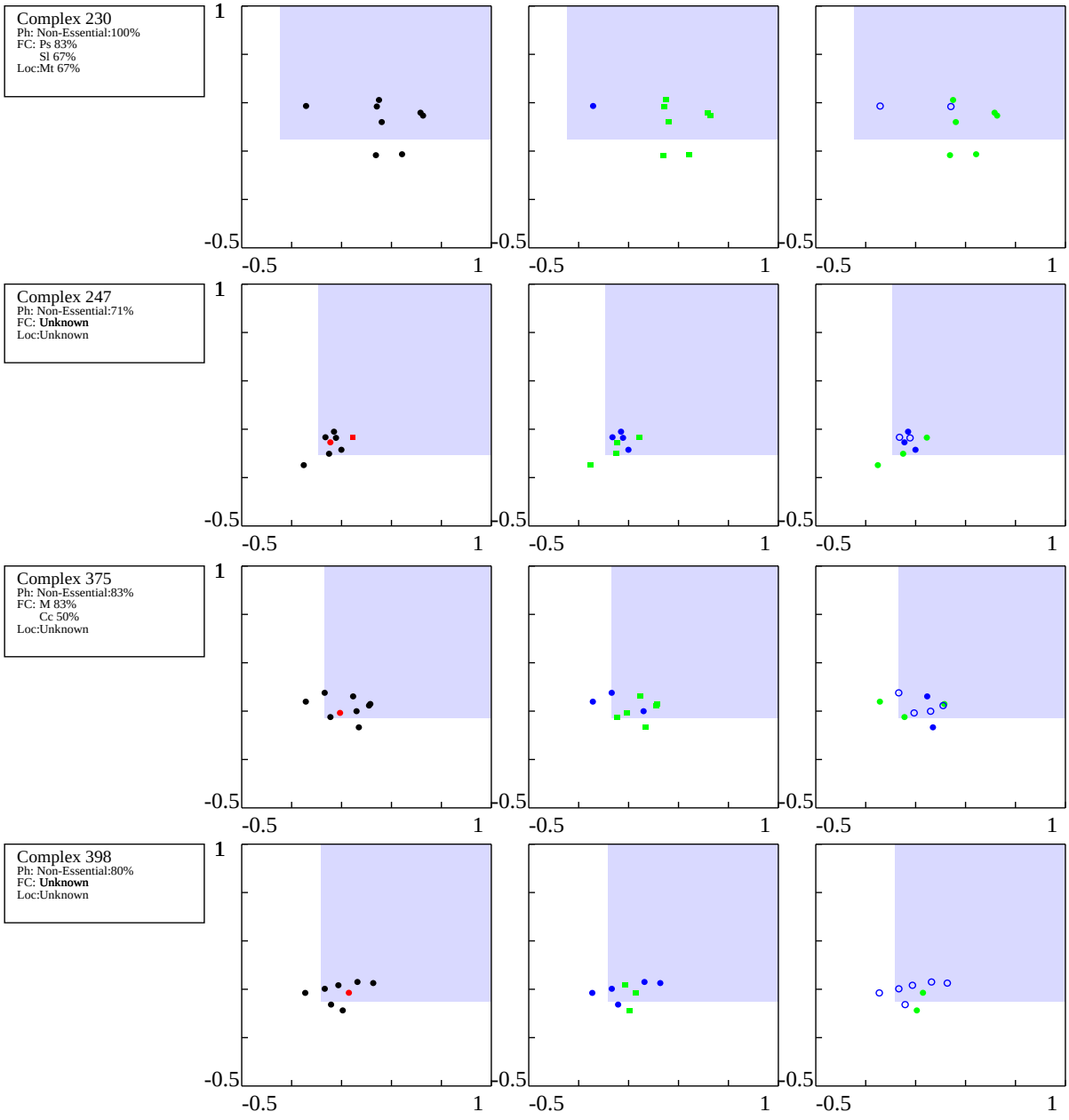
-0.5
1

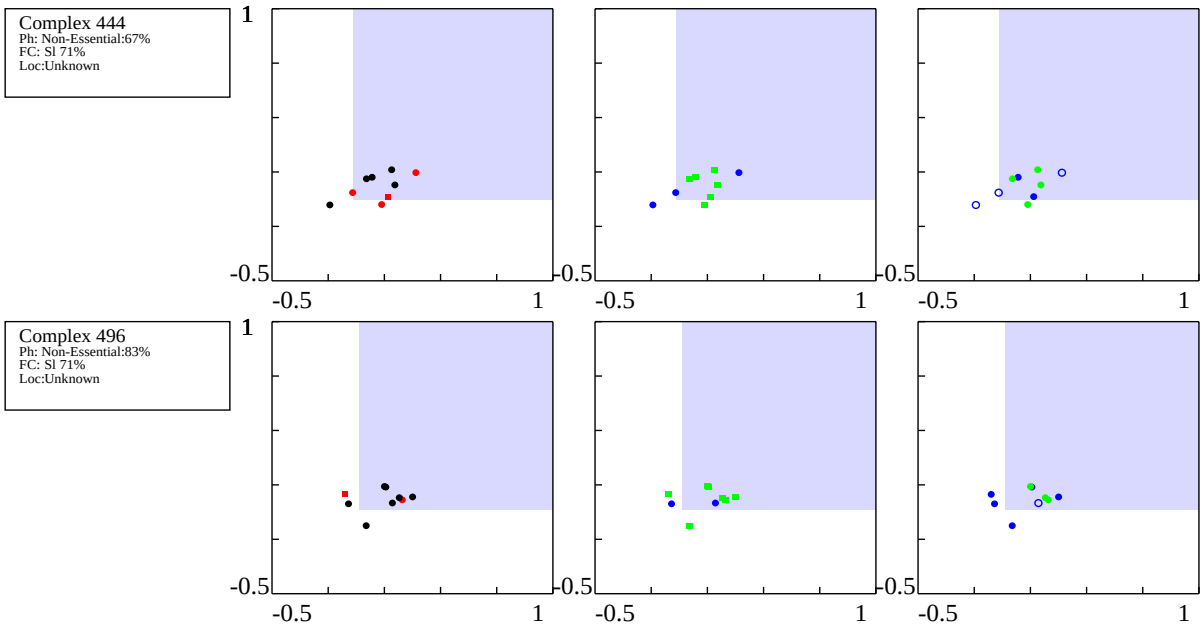

Complex 252
Ph: Non-Essential:60%
FC: Unknown
Loc:Unknown
Complex 384
Ph: Non-Essential:78%
FC: Sl 56%
Loc:Unknown
Complex 502
Ph: Non-Essential:60%
FC: Sl 70%
Loc:Unknown
Complex 319
Ph: Non-Essential:71%
FC: Sl 86%
Loc:Unknown
1
-0.5
-0.5
1


Complex 564
Ph: Non-Essential:62%
FC: M 78%
Sl 78%
E 67%
Loc:Cyp 67%
Complex 245
Ph: Non-Essential:75%
FC: Sl 88%
Loc:Cyp 88%
Complex 332
Ph: Non-Essential:62%
FC: Tsc 75%
Sl 62%
Loc:N 50%
Complex 458
Ph: Non-Essential:100%
FC: Cc 57%
Cf 57%
Loc:Unknown
1
-0.5


Complex 93
Ph: Non-Essential:100%
FC: Sl 86%
Tsc 71%
Loc:N 71%
Complex 122
Ph: Non-Essential:75%
FC: Sl 62%
Ct 50%
Loc:Unknown
Complex 261
Ph: Non-Essential:71%
FC: Sl 86%
Ps 71%
Loc:Mt 57%
Complex 276
Ph: Non-Essential:88%
FC: Sl 88%
M 62%
E 62%
Loc:Mt 75%
1
-0.5
-0.5
1


Complex 317
Ph: Non-Essential:100%
FC: Sl 78%
Loc:Unknown
Complex 446
Ph: Non-Essential:75%
FC: Sl 62%
Ps 50%
Loc:Cyp 50%
Complex 526
Ph: Non-Essential:83%
FC: Tsc 57%
Sl 57%
Loc:N 57%
Complex 76
Ph: Non-Essential:83%
FC: Tsc 100%
Sl 50%
Loc:N 50%
1
-0.5
-0.5
1


Complex 230
Ph: Non-Essential:100%
FC: Ps 83%
Sl 67%
Loc:Mt 67%
Complex 247
Ph: Non-Essential:71%
FC: Unknown
Loc:Unknown
Complex 375
Ph: Non-Essential:83%
FC: M 83%
Cc 50%
Loc:Unknown
Complex 398
Ph: Non-Essential:80%
FC: Unknown
Loc:Unknown
1
-0.5
-0.5
1


Complex 444
Ph: Non-Essential:67%
FC: Sl 71%
Loc:Unknown
Complex 496
Ph: Non-Essential:83%
FC: Sl 71%
Loc:Unknown
1
-0.5
-0.5
1

I(d). Predicted protein characteristics

It is common to associate the function of a protein with the known function of the complex in which it participates. Our results indicate, however, that for subunits of protein complexes identified by mass spectroscopic methods such association is not always meaningful. Indeed, the functional, phenotypic and localization based inhomogeneity of the halo proteins do not allow us to assign them a clear functional or localization based classification. Yet, the homogeneity of the core is quite remarkable, indicating that all core proteins should carry the functional and localization classification of the complex. We find that many complexes, for which we were able to assign an unambiguous functional or localization based classification, contain proteins with either unknown classification, or whose current classification does not agree with the classification of the other core proteins. For these core subunits we can offer rather reliable functional predictions. In the following table we list the proteins for which predictions regarding their classification is possible. In the first column we have the protein's name, and in the second the complex in which they appear, serving as the basis of our predictions. The confidence level of each prediction can be seen by looking up the specific complex in Table I. Next we show the known functional classification based on the MIPS database, followed by our prediction for the functional classification. The last two columns give the cellular localization from the MIPS database, followed by the predicted localization. Missing entries in the prediction columns imply that the confidence level of the prediction did not reach 50%.

Table II

Protein	Compl. Nr.	Func. from MIPS	Predicted Func.	Loc. from MIPS	Predicted Loc.
YAL007C	91	Pf Ct	Sl	TV	
YAL013W	267	M Sl	Tsc	Cyp	N
YAL024C	368	Cc	Cf		
YAL027W	394		Sl		
YAL029C	177	Cc Ct Cf Sl			Cyp
YAL036C	362		Sl		
YAL043C	451	Tsc Sl			N
YAR007C	185	Cc Cf Sl	Tsc	N	
YBL004W	168		Tsc Sl		Mt
YBL023C	370	Cc Sl	M	Cyp N	
YBL032W	399		Sl		
YBL088C	115	M Cc Co	Sl		
YBR025C	357		Sl	Cyp	
YBR055C	225	Tsc Sl		N	Mt
YBR079C	159	Cc Ps Sl		Cyp	N
YBR084W	215	M Sl		Mt	N
YBR090C–A	185		Tsc Sl		N
YBR095C	307		Tsc		
YBR105C	255	Pf Ct Sl	Tsc	TV	N
YBR152W	329	Tsc Co	Sl		N Mt
YBR169C	159	Cr Sl		Cyp	N
YBR205W	298	M Pf	Sl		
YBR208C	206	M	Sl		Mt
YBR245C	252	Tsc	Sl		N
YBR247C	442	Pf Sl		N	
YBR263W	271	M Sl		Mt	
YBR272C	120	Cc	Sl		N
YBR289W	442	M Tsc Cf Sl		N	
YCL010C	352		Tsc Sl		N
YCL031C	421	Tsc Ps Pf			
YCL037C	344	Tsc R	Sl	Cyp	N
YCL054W	439	Tsc Ps Sl		N	
YCL059C	85	Sl		N	
YCR012W	160	M E Sl		Cyp	N
YCR029C–A	170		Cc		N
YCR030C	167		Ps		Mt
YCR071C	167	Co	Ps		Mt
YDL002C	412		Tsc Sl		N
YDL031W	439	Tsc			
YDL070W	115	Tsc	Sl		
YDL076C	307		Tsc		
YDL087C	344	Tsc	Sl		N
YDL098C	329	Tsc			N
YDL156W	170		Cc		N
YDL167C	236		Sl		N

YDL195W	295	Ct Sl		TV	N
YDL209C	429		Tsc Sl		N
YDL225W	170	Cc Cf		Cyt	N
YDR036C	415		Ps Sl		Mt
YDR045C	278	Tsc			N
YDR069C	206	Pf R Cf Co Sl		ER N	Mt
YDR101C	177		Sl		Cyp
YDR115W	167	Ps			Mt
YDR116C	192	Ps	Sl		Mt
YDR145W	349	Tsc	Sl	N	
YDR150W	289	Cc	M		
YDR296W	166	Cc	Ps		Mt
YDR299W	421	Ct Cf			
YDR378C	230	Tsc	Sl		N Mt
YDR416W	429	Cc Tsc	Sl		N
YDR473C	225	Tsc Pf Sl		N	Mt
YDR496C	349		Tsc Sl		N
YEL056W	120	Tsc Pf Sl		Cyp	N
YER006W	439	Ct	Tsc		
YER086W	357	M Sl		Mt	Cyp
YER133W	233	M E Cc Ps Cf Sl	Tsc	Cyp	N
YER155C	168	Cc Cf Sl		Cyp	Mt
YER157W	159	Ct Sl		Cyp	N
YER164W	54	Tsc	Sl		N
YFL006W	287		Pf Sl		ER N
YFL039C	255	Cc Ct Cf Sl	Tsc	Cyt	Cyp N
YFR004W	206	Pf Sl		ER N	Mt
YFR010W	378	Pf			ER N
YFR019W	310	M Pf Ct Co	Cc Cf	V	
YFR028C	259	Cc	Tsc Sl		N
YFR044C	298		Sl		
YGL048C	18	Cc Pf Sl		ER N	Cyp
YGL049C	430	Ps Sl	Tsc	Cyp	N
YGL064C	167		Ps		Mt
YGL106W	177	Cc Cf	Sl		Cyp
YGL171W	421	Tsc		N	
YGL197W	310	Cf	Cc Sl		
YGL245W	357	Ps	Sl		Cyp
YGL251C	440	Tsc Sl	M	N	Cyp
YGR090W	188		Tsc Sl		
YGR095C	126	Tsc	Sl		Cyp
YGR150C	168		Sl		Mt
YGR156W	451		Tsc		N
YGR162W	344	Ps Sl		Cyp	N
YGR194C	126	M	Sl		Cyp
YGR204W	271	M Tsc Sl		Cyp	
YGR278W	429		Tsc Sl		N

YGR281W	368	Sl Tf	Cc Cf	Pm	
YHL030W	241	Co	Pf Sl		ER N
YHL035C	52	Tf	Tsc		N
YHR020W	355	Ps	Sl		
YHR052W	188		Tsc		
YHR081W	282		Tsc		
YHR086W	422	Cc Tsc			N
YHR089C	99	Tsc Sl		N	
YHR147C	258	Ps Sl	Tsc	Mt	N
YHR156C	230	Ct	Tsc		N
YHR158C	368	R Cf Sl	Cc	Cyp	
YHR174W	160	M E Sl		Cyp	N
YHR197W	168		Sl		Mt
YIL094C	68	M	Sl	Mt	N
YIL115C	192	Ct Sl		N	Mt
YIL142W	310	Pf Sl	Cc Cf	Cyp	
YIL177C	370		M		
YIR001C	236	Tsc	Sl		N
YIR002C	249	Cc Cr			N
YIR009W	329	Tsc Pf			N
YIR033W	357	Cc Sl		N	Cyp
YJL005W	165	M Cc Cco R Cf Sl		Pm	Mt
YJL011C	278		Tsc Sl		N
YJL017W	348		Sl		
YJL029C	202	Ct Sl	Tsc	G	N
YJL033W	236	Tsc Co	Sl		N
YJL061W	192	Tsc Ct Sl		N	Mt
YJL109C	311		Tsc		
YJL124C	143	Tsc	Sl		
YJL176C	442	M Tsc Cf Sl		N	
YJL222W	115	Pf Ct	Sl		
YJR002W	421	Tsc Sl		N	
YJR084W	321		Tsc		N
YJR132W	115	M	Sl		
YJR138W	236	Cc Co	M Sl		N Mt
YJR144W	170	Cc Sl		Mt	N
YKL009W	28	M Tsc Ps			
YKL014C	188		Tsc Sl		
YKL059C	450		Tsc		N
YKL060C	160	M E Sl		Cyp	N
YKL088W	55	Cr	Sl		
YKL143W	442	Cr			
YKL173W	429	Ps	Tsc Sl		N
YKL195W	310		Cc Cf		
YKL214C	344		Sl		N
YKR001C	349	Pf Sl	Cc Tsc	G	N
YKR025W	266	Tsc	Sl	N	

YKR095W	334	Cc Sl	Tsc	N	
YLL008W	439	Tsc Pf Sl		N	
YLL011W	85	Tsc Sl		N	
YLL022C	120		Sl		N
YLL034C	439				
YLR009W	188	Ps	Tsc		
YLR033W	185		Tsc Sl		N
YLR106C	115		Sl		
YLR129W	427	Cc			
YLR150W	295	M Cco	Sl		N
YLR175W	99	Cc Tsc Cf Co Sl		N	
YLR180W	380	M	Sl		
YLR197W	134	Tsc Sl		N	
YLR208W	451	Ct Sl	Tsc	TV	N
YLR226W	344	Cc Tsc	Sl		N
YLR276C	232		Sl		
YLR310C	310	M Cc R Sl Pa	Cf	Pm	
PBR1	372	M Sl	Ct	Pm	G
YLR347C	344	Pf Ct Sl	Tsc	Cyp	N
YLR357W	252	Cc Co	Tsc Sl		N
YLR371W	440	M Cf Co Pa	Sl		Cyp
YLR386W	348		Sl		
YLR409C	427				
YLR411W	370	R Tf	M		
YLR424W	320		Tsc		N
YLR449W	188	Pf	Tsc	N	
YML049C	344	Tsc Ct	Sl		N
YML071C	126		Sl		Cyp
YML117W	236		Tsc Sl		N
YMR012W	349	Ps Co	Tsc Sl	Cyp	N
YMR024W	310	Ps Sl	Cc Cf	Mt	
YMR075W	267		Tsc Sl		N
YMR080C	236	M Ps Sl	Tsc	Cyp	N
YMR091C	246	Pf	Sl		N
YMR112C	334	Tsc Sl			N
YMR128W	168	Co Sl		N	Mt
YMR158W	163		Ps		Mt
YMR188C	415	Ps			Mt
YMR190C	170	Cc Cf			N
YMR213W	230	Cc	Tsc		N
YMR223W	333	Pf	Tsc Sl		N
YMR251W	370		M		
YMR290C	113	Cc	Tsc Sl		N
YMR310C	399		Sl		
YMR315W	240		Sl		
YNL002C	439				
YNL005C	99	Ps Sl		Mt	

YNL061W	87	Tsc Sl		N	
YNL075W	85	Tsc			
YNL085W	243	Tsp	Sl		
YNL097C	267	Tsc	Sl		N
YNL101W	310		Cc Cf		
YNL112W	271	Tsc Sl		N	
YNL118C	143	E	Tsc Sl		
YNL127W	440		M Sl		Cyp
YNL139C	344	Tsc Ps	Sl		N
YNL186W	168	Tsc Pf	Sl	N	Mt
YNL187W	310		Cc Cf		
YNL189W	32	Pf Ct Co Sl	Tsc	N	
YNL232W	311	M	Tsc		
YNL262W	99	Cc Sl		N	
YNL265C	126		Sl		Cyp
YNR016C	310	M Sl	Cc Cf	ER N	
YOL139C	148	Ps Cf Sl	Tsc	Cyp	N
YOL142W	126	Cc	Tsc Sl	N	Cyp
YOL145C	68	Cc Sl			N
YOR001W	311		Tsc		
YOL021C	421	Cc Tsc Sl		N	
YOL041C	113		Tsc		N
YOL054W	120		Sl		N
YOL078W	50		Sl		
YOL086C	160	M E Sl		Cyp	N
YOL115W	168	Cc Sl		N	Mt
YOR048C	271	Tsc Ct Sl		N	
YOR123C	68	Pf	Sl		N
YOR136W	18	M E Tsc Sl		Mt	Cyp
YOR179C	233	Tsc			N
YOR206W	421	Ct Co		N	
YOR243C	362		Sl		
YOR267C	310		Cc Cf		
YOR272W	188	Cc Sl	Tsc	Cyt	
YOR290C	442	M Tsc Cf Sl		N	
YOR304W	252	Tsc	Sl		N
YOR308C	225	Tsc	Sl	N	Mt
YOR331C	240		Sl		
YOR388C	380	E	Sl		
YPL011C	353	Tsc	Sl		N
YPL012W	232		Sl		
YPL043W	99	Tsc Sl		N	
YPL093W	188		Tsc		
YPL128C	349	Sl	Tsc	N	
YPL151C	429		Tsc Sl		N Mt
YPL152W	368		Cc Cf		
YPL181W	412		Tsc Sl		N

YPL204W	442	Cc Sl		N	
YPL226W	357	Ps Tf	Sl	N	Cyp
YPL228W	50	Tsc	Sl	N	
YPL235W	372	Cc	Tsc Sl		Cyp G N
YPL259C	206	Pf Ct Co Sl		TV	Mt
YPL266W	442	Tsc Sl		N	
YPR032W	266	Ct Cf Co Sl	Tsc	Pm Cyp	N
YPR070W	334	Tsc	Sl		N
YPR077C	115		Sl		
YPR082C	321	Cc	Tsc Sl		N Mt
YPR100W	165		Sl		Mt
YPR107C	451	Tsc			N
YPR112C	134				

II. Detailed characterization of the complexes reported by Ho *et al.*

II(a). List of complexes with their predicted characteristics

The functional, phenotypic and localization based homogenity of the core allows us to make specific predictions regarding the deletion phenotype, functional role and the cellular localisation of the complexes uncovered by Ho *et al.* This table offers a summary of these predictions, by showing each complex, in the order as they were presented in the Supplementary Material of Ho *et al.*, together with their precited characteristics. For each complex we show in the first column the complex number, as given in Ho *et al.*, followed by the bait used in the experiments to find the complex. The third column indicates the predicted essentiality of the complex, with the percentage of the core proteins with known deletion phenotype that lead to our prediction. That is, an 80% essentiality means that 80% of the core proteins are known to be essential. The fourth and fifth columns give the predicted functional classification and cellular localization for each complex, together with the percentage of the core proteins that share the indicated function or localization. As some proteins can have multiple functions, we can predict if the complex simultaneously belongs to several functional classes. Again, the percentage denotes the number of core proteins that share the indicated functional class/localization. Missing entries indicate that none of the functional classes/localization based predictions reach the 50% confidence level. The functional classes appearing in the table, together with their acronyms are: metabolism (M), energy (E), cell cycle (Cc), transcription (Tsc), protein synthesis (Ps), protein fate (Pf), cellular transport (Ct), cellular communication and signal transduction (Cco), cellular rescue defens and virulence (Cr), regulation (R), cell fate (Cf), transposable elements (Tsp), cellular organization (Co), subcellular localization (Sl), protein activity (Pa), protein with binding function (Pb), transport facilitation (Tf).

The localization classes (and their acronyms) are: extracellular (Ext), cell wall (CW),

plasma membrane (Pm), cytoplasm (Cyp), cytosceleton (Cyt), ER, golgi (G), transport vesicles (TV), nucleus (N), mitochondria (Mt), peroxisome (Pr), endosome (En), vacuole (V), microsomes (Mc), lipid particles (L).

Table III

Compl. nr.	Bait	Essentiality	Predicted function	Predicted localization
1	YCR088W	Non–Essential 62%	Sl 92%	
2	YER017C	Unknown	Sl 90% M 50%	
4	YBR059C	Unknown	Cc 50% Pf 50% Ct 50% Cco 50% Cr 50% Cf 50% Sl 50%	Mt 50%
5	YBR217W	Unknown	Sl 70%	
6	YPL149W	Non–Essential 63%	Sl 84% M 68%	
7	YPL259C	Non–Essential 65%	Sl 60%	
8	YBR288C	Unknown	Sl 88%	
9	YOL062C	Non–Essential 65%	Sl 82% M 53%	
10	YBR234C	Unknown	Sl 79%	
11	YNR019W	Non–Essential 67%	M 67% Sl 67%	Cyp 67%
12	YDL192W	Non–Essential 67%	Sl 83% Ps 50%	Cyp 67%
14	YDL029W	Unknown	Sl 78%	
15	YMR116C	Essential 71%	Sl 57%	
16	YPL115C	Non–Essential 100%		
17	YJR053W	Non–Essential 86%	Sl 71%	
18	YER177W	Non–Essential 100%		
19	YDR099W	Non–Essential 100%	Cc 100% Cco 100% Cf 100%	
20		Non–Essential 100%		
21	YGR188C	Non–Essential 67%	Sl 100% M 67% E 67%	Cyp 67%
22	YMR055C	Unknown	Pf 50%	
23	YMR055C	Non–Essential 100%	Cc 50% Pf 50% Ct 50% Sl 50%	
24		Non–Essential 100%	M 50% Cc 50% Tsc 50% Ps 50% Co 50% Sl 50%	Cyp 100%
25		Unknown		
26		Unknown	Sl 69%	
27	YML102W	Non–Essential 100%	Sl 100% M 67% Cc 67%	N 67%
28	YOR276W	Non–Essential 62%	Sl 75% M 62%	Cyp 50%
29	YKR036C	Unknown	Sl 94% Pf 56%	Cyp 61%
30	YPL111W	Unknown	M 100% Sl 100%	Cyp 75%
31	YLR175W	Non–Essential 67%	Sl 76% M 52%	Cyp 57%
32	YNL161W	Unknown	Sl 75%	
33	YKL011C	Non–Essential 100%	M 100% Sl 100% E 50% Cc 50%	Cyp 100%
34	YAL021C	Non–Essential 75%	Sl 75%	
35	YIL142W	Non–Essential 64%	Sl 91%	Cyp 55%
36	YCR002C	Unknown	Sl 77% M 55%	
37	YJR076C	Essential 60%	Sl 88%	
38	YHR107C	Non–Essential 62%	Sl 81% M 57%	
39	YDL220C	Non–Essential 64%	Sl 100%	Cyp 67%
40	YFR028C	Non–Essential 76%	Sl 77%	
41	YAR019C	Unknown	Sl 57%	
42	YGL116W	Essential 82%	Sl 82% Pf 73%	Cyp 64%
43	YHR166C	Non–Essential 67%	Sl 83% E 67% M 50% Ct 50% Tf 50%	Mt 50%
44	YBR160W	Unknown	Sl 69%	
45	YLR314C	Non–Essential 67%	Sl 83% M 58%	Cyp 58%

46	YOL139C	Non–Essential 92%	Sl 79% M 64%	Cyp 71%
48	YLR229C	Unknown	Sl 78%	
50	YDL126C	Essential 100%	Pf 100% Cc 50% Ct 50% Cr 50% Sl 50%	Mt 50%
51	YMR001C	Essential 86%	Sl 62% Cc 50%	
52	YCR094W	Unknown	Cc 100% Sl 100% Pf 50% Ct 50% Cr 50%	Cyp 50% Cyt 50% ER 50%
53	YDL132W	Non–Essential 83%	Sl 83%	Cyp 50%
54	YGL190C	Unknown	Sl 83% Pf 52%	Cyp 65%
55	YDL017W	Non–Essential 69%	Sl 70%	
56	YDL164C	Non–Essential 71%	Sl 79%	
57	YDL164C	Non–Essential 60%	Pf 60% Cr 60% Sl 60%	
58	YGL003C	Essential 75%	Sl 77% Pf 62%	Cyp 54%
59	YBR274W	Essential 67%	Sl 83% M 67%	
60	YBR274W	Non–Essential 100%	M 50% Cc 50% Pf 50% Ct 50% Cr 50% Sl 50%	Cyp 50% ER 50%
61	YBR274W	Non–Essential 100%	Cc 100%	
62	YMR198W	Non–Essential 100%	Cc 50% Ct 50% Sl 50%	Cyp 50%
63	YMR138W	Unknown	Sl 100% E 50% Pf 50% Ct 50% Cr 50% R 50% Tf 50%	Mt 100%
64	YCR005C	Non–Essential 67%	Sl 100% M 67% E 67%	Cyp 67%
65	YIL035C	Unknown	Sl 61%	N 51%
66	YOR061W	Non–Essential 80%	M 80% Sl 80%	
67	YBR135W	Unknown	Cc 75%	
68	YPR119W	Essential 100%	Cc 100% Cf 100%	
69	YMR199W	Unknown	Cc 100% Cf 50%	
70	YPL256C	Non–Essential 75%	Sl 60%	
72	YBR109C	Non–Essential 69%	Sl 81%	Cyp 50%
73	YFR014C	Unknown	Cf 100% Sl 100% Cc 50% Ct 50% Cco 50%	Cyp 50% Cyt 50%
74	YML057W	Non–Essential 64%	Sl 73%	
75	YLR433C	Unknown	Cc 100% Ct 100% Sl 100% Pf 50% Cr 50% Cf 50%	Cyp 50% Cyt 50% ER 50%
76	YKL190W	Non–Essential 100%	Tsc 100% Cf 100% Sl 100% R 50%	Cyp 100%
77	YBR155W	Unknown	Sl 67%	
78	YLL050C	Non–Essential 67%	Sl 82%	
79	YDL145C	Non–Essential 70%	Sl 75%	
80		Unknown	Sl 67% M 50% Pf 50% Ct 50% Cr 50%	Mt 50%
81	YLR216C	Non–Essential 83%	M 50% Sl 50%	
82	YLR429W	Non–Essential 67%	Sl 100% Cr 67%	
83	YNR010W	Non–Essential 75%	Sl 100% M 50% E 50% Ct 50%	Cyp 50%
84	YMR094W	Unknown	Sl 100% M 50% Pf 50% Ct 50%	
85	YKL139W	Non–Essential 80%	Sl 55%	
86	YML112W	Essential 67%	Sl 67% Cc 50%	
88	YMR240C	Unknown	Cc 50% Ps 50% Pf 50% Sl 50%	Cyp 50%
89	YJL005W	Essential 60%	Sl 100% M 67% Cc 50% Cf 50%	
90	YGR092W	Unknown	Sl 79%	
91	YPR111W	Unknown	Sl 70%	
92	YHR169W	Non–Essential 65%	Sl 60%	

93	YPL194W	Non–Essential 100%	M 50% E 50% Cc 50% Cr 50% Sl 50%	Mt 50%
94	YPL194W	Essential 67%	Sl 100% Cc 50% Ct 50% Tf 50%	
95		Essential 65%	Sl 50%	
96	YDR480W	Non–Essential 83%	Sl 67% Cf 50%	
97	YER179W	Unknown	Sl 84%	
98	YJL090C	Essential 60%	Sl 80%	
99	YJL090C	Essential 67%	Pf 100% Sl 100% Ct 67% Cr 67%	
100		Essential 71%	Sl 75%	
101		Unknown	Sl 80% M 50%	Mt 60%
102	YPR017C	Non–Essential 60%		
103	YDL101C	Non–Essential 75%	Sl 67%	
104	YBR208C	Essential 67%	M 75% Sl 50%	Cyp 50%
105	YNL230C	Unknown		
106	YKL048C	Unknown	Sl 100% M 50% E 50% Pf 50% Ct 50% R 50% Tf 50%	Cyp 50% V 50%
107		Non–Essential 100%		
108		Essential 72%		
109	YJR017C	Essential 69%	Sl 53%	
110	YLR233C	Unknown	Sl 53%	
111	YMR246W	Non–Essential 100%	M 100% Sl 100%	Cyp 100%
112	YNL023C	Non–Essential 100%	Sl 100% M 50% Pf 50%	Cyp 100%
113	YJL157C	Unknown	Sl 77%	
114	YPR104C	Non–Essential 80%	Sl 100% Tsc 60%	N 80%
115		Non–Essential 100%	Cc 100% Cco 100% Cf 100%	
116	YIL131C	Non–Essential 65%	Sl 75% Tsc 60%	N 50%
117	YNL068C	Non–Essential 100%	Tsc 100% Sl 100% M 50% Cf 50%	N 100%
118	YNL135C	Non–Essential 70%	Sl 85%	Cyp 67%
119	YPL262W	Non–Essential 75%	Sl 100% E 75% M 50%	Cyp 75% Mt 50%
120	YAL036C	Non–Essential 78%	Sl 70%	Cyp 60%
121	YAL017W	Non–Essential 60%	M 60% E 60% Sl 60%	
122	YCL011C	Non–Essential 60%	Tsc 57%	
123	YER025W	Unknown	Sl 75% M 50% Ps 50%	Cyp 75%
124	YGR083C	Non–Essential 64%	Sl 79% M 50%	Cyp 57%
125	YLR291C	Unknown	Sl 73%	Cyp 50%
126	YDR283C	Non–Essential 100%	Sl 100% M 50% E 50% Cc 50%	Cyp 50% Mt 50%
127	YKR026C	Non–Essential 65%	Sl 82%	
128	YGR252W	Non–Essential 86%	Tsc 75% Sl 62%	N 62%
129	YER136W	Non–Essential 78%	Ct 67% Sl 56%	
130	YER054C	Non–Essential 100%	M 100% E 100% Sl 75%	Cyp 50%
132	YER133W	Non–Essential 68%	Sl 73%	
133	YMR311C	Non–Essential 100%	M 100% E 50% Cc 50% Tsc 50% Sl 50%	N 50%
134	YHR183W	Non–Essential 100%	Sl 100% M 67% E 67%	
135	YER020W	Non–Essential 75%		
136	YJR090C	Non–Essential 80%	Sl 75% M 62%	
137	YLR293C	Unknown	Sl 89% Ct 67% Tsc 56%	Cyp 78%
138	YJL044C	Non–Essential 100%	E 100% Sl 100% M 75% Ct 50%	Cyp 50% Mt 50%

140	YGL237C	Non–Essential 63%	Sl 65%	
141	YBL021C	Non–Essential 88%	Sl 75% Ct 50% Cr 50%	
142	YEL056W	Non–Essential 100%	Sl 94% M 56%	Cyp 69%
143	YDL013W	Non–Essential 67%	Sl 89%	
144	YBL008W	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
145	YLR113W	Non–Essential 100%	M 50% E 50% Cc 50% Cr 50% R 50% Sl 50%	Cyp 50%
146	YDR138W	Non–Essential 100%		
147	YDR138W	Unknown	Sl 57%	
148	YJL092W	Non–Essential 67%	Sl 100%	
149	YJL092W	Non–Essential 67%	Sl 100% Cc 67%	N 67%
150	YPL204W	Non–Essential 67%	Sl 57%	
151	YPL204W	Unknown	Sl 54%	
152	YOL133W	Non–Essential 70%	Sl 71%	
153	YOR319W	Non–Essential 60%	Sl 55%	
154	YFL014W	Non–Essential 100%	M 50% Cr 50% Sl 50%	Cyp 50%
155	YDR225W	Unknown	Sl 83% Tsc 67%	N 75%
157	YKL189W	Non–Essential 75%	Sl 75% Cc 50% Pf 50%	Cyp 75%
158	YKL189W	Unknown	M 67% E 67% Sl 67%	Cyp 67%
159	YJL106W	Unknown	Sl 87%	
160	YLR309C	Non–Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
161	YOL108C	Unknown	Sl 80%	N 50%
162	YNL106C	Essential 71%	Sl 56%	
163	YIR005W	Essential 60%	Sl 70%	
164	YPL135W	Essential 100%	Pf 100% Cr 100% Sl 100%	Mt 100%
165	YOR304W	Unknown	Tsc 50% Pf 50% Ct 50% Sl 50%	
166	YBR017C	Non–Essential 68%	Sl 80%	
167	YLR096W	Non–Essential 91%	Sl 58%	Cyp 50%
170	YLL019C	Non–Essential 75%	Sl 92% E 58% M 50%	
171		Essential 65%	Sl 70%	Cyp 50%
172	YHR082C	Non–Essential 70%	Sl 70% Cf 50%	
173	YGR040W	Non–Essential 60%	Sl 68%	
174	YGR040W	Non–Essential 82%	Sl 73%	
175	YKL103C	Non–Essential 84%	Sl 68%	Cyp 53%
176	YOR181W	Non–Essential 62%	Sl 94%	
177	YOR181W	Unknown	Sl 89%	
178		Non–Essential 62%	M 56% Sl 56%	
179		Unknown	Sl 67%	Cyp 67%
181	YGL090W	Non–Essential 100%	Sl 100% Cc 50% Cr 50% R 50% Cf 50%	Cyp 50% N 50% Mt 50% Pr 50%
182		Essential 91%	Sl 50%	
183		Non–Essential 100%		
185	YBL026W	Unknown	Sl 75%	
186	YER112W	Essential 67%	Sl 67%	
187	YJR022W	Unknown	Sl 73%	N 55%
188	YNL006W	Essential 75%	Pf 50% Sl 50%	
190	YIR034C	Non–Essential 67%	M 67% Sl 67%	

191	YER142C	Non–Essential 73%	Sl 53%	
192	YER142C	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
193	YKL021C	Essential 80%	Sl 60%	
194	YDL003W	Essential 100%	Cc 100% Sl 100%	N 100% Cyp 50%
195	YNL307C	Non–Essential 100%	Cc 50% Cf 50%	
196	YOL126C	Non–Essential 60%	Sl 62% M 52%	
197		Non–Essential 67%	Cr 67%	
198		Non–Essential 100%	M 50% E 50% Sl 50%	Cyp 50% Mt 50%
199	YLR288C	Non–Essential 67%	Sl 58%	
200	YOR174W	Non–Essential 60%	Sl 100%	
201	YOR351C	Non–Essential 77%	Sl 80% M 52%	
202	YIL128W	Non–Essential 71%	Sl 89%	Cyp 56%
203	YIL046W	Unknown	Sl 71%	
205	YDL200C	Non–Essential 62%	Sl 86%	
206	YDL200C	Non–Essential 60%	Sl 90% Cr 50%	
207	YJL042W	Non–Essential 100%	Cc 100% Cco 100% Cf 100%	
208	YGL035C	Unknown	Sl 100% Tsc 75% M 50%	Cyp 50% N 50%
209	YMR036C	Non–Essential 75%	Sl 75% Pf 50% Cr 50%	Mt 50%
210	YOR231W	Non–Essential 100%	Sl 67%	Cyp 67%
211	YPL140C	Non–Essential 71%	Sl 64%	
212	YMR167W	Non–Essential 75%	Sl 50%	Mt 50%
213		Unknown	Sl 75%	
214		Non–Essential 80%	E 100% Sl 100% M 60%	Cyp 60%
215	YGL087C	Non–Essential 100%	Cc 50%	
216	YGL087C	Non–Essential 100%	M 50% Cc 50% Sl 50%	Cyp 50%
217	YBR098W	Non–Essential 67%	Ct 67% Sl 67%	Mt 67%
219	YFL035C	Essential 67%	M 67% E 67%	
220	YFL035C	Non–Essential 100%	Cr 100% Sl 100%	Cyp 100% N 100%
221	YNL053W	Non–Essential 67%	Sl 83% R 50%	Cyp 50%
222	YHR120W	Essential 67%	Sl 83% M 50% Pf 50%	Cyp 50%
223	YCR092C	Non–Essential 67%	M 67% Sl 67%	Cyp 50%
224	YDR097C	Non–Essential 100%	Cc 100% Sl 100%	N 100%
225	YBR195C	Non–Essential 100%		
226	YDR335W	Non–Essential 67%	Cf 67%	
227	YDR386W	Essential 60%	Sl 72%	
228	YDR386W	Non–Essential 64%	Sl 62%	
229	YPL126W	Non–Essential 100%	M 67% E 67% Sl 67%	
230		Non–Essential 100%	Sl 56%	Cyp 56%
231		Essential 60%	Tsc 50% Sl 50%	
232	YNL061W	Essential 71%	Sl 56%	
233	YNL183C	Non–Essential 75%	M 80%	
234	YJR062C	Non–Essential 67%	Sl 92% E 50%	Cyp 58%
235	YAL015C	Non–Essential 64%	Sl 75%	
236	YAL015C	Non–Essential 100%	Sl 71% M 57%	
237	YDL116W	Non–Essential 60%	Ct 80% Sl 80% Tsc 60%	N 80%
238	YJR042W	Unknown	Sl 60%	

239		Essential 100%	Tsc 67% Sl 67%	N 67%
240	YOR269W	Non–Essential 100%	Sl 100% M 75% E 75%	Cyp 100%
241	YDR488C	Non–Essential 62%	Sl 67%	
242	YER007W	Essential 100%	Pf 100% Cc 50% Sl 50%	ER 50% N 50%
243	YCR077C	Non–Essential 80%	Sl 83% Tsc 67%	Cyp 50%
244	YCR077C	Non–Essential 75%	Sl 89% Tsc 56%	
245	YJL128C	Non–Essential 80%	Sl 88% M 69%	Cyp 50%
246	YDR228C	Unknown	Sl 75%	
247	YER059W	Unknown	Sl 100% E 50% Cc 50%	
248	YDL179W	Non–Essential 71%	Sl 71%	
249	YDR113C	Essential 100%	Sl 75% M 50% E 50% Pf 50%	
250	YLR148W	Unknown	Sl 100%	Cyp 50%
251	YMR026C	Unknown	Sl 100% M 50% Pf 50% Ct 50%	Cyp 100% TV 50%
252	YDR142C	Non–Essential 66%	Sl 85%	Cyp 50%
253	YGR240C	Non–Essential 67%	Sl 100% M 67% E 67%	Cyp 67%
254	YMR205C	Non–Essential 60%	Sl 90% Pf 60%	Cyp 50%
255	YNL317W	Essential 82%	Sl 91% Pf 82%	Cyp 82%
256	YPL031C	Non–Essential 89%	Sl 89% M 67%	Cyp 72%
257	YOR386W	Non–Essential 67%	Sl 83% M 50% E 50%	Mt 83%
259	YDR313C	Non–Essential 100%	M 67% Sl 67%	
260	YDR490C	Non–Essential 100%		
261	YOL100W	Non–Essential 89%	Sl 55%	
262	YBR088C	Non–Essential 71%	Sl 75% E 62% M 50%	
263	YBR088C	Essential 100%	Sl 100%	N 67%
264	YCR014C	Non–Essential 75%	Sl 67%	Cyp 50%
265	YCR014C	Unknown	Cc 100% Sl 100% Pf 50% Ct 50% Cr 50%	Cyp 50% ER 50%
266	YDL134C	Non–Essential 70%	Sl 67%	
267	YDL188C	Non–Essential 62%	Sl 71%	
268	YDR075W	Non–Essential 67%	Sl 78%	
270	YGR123C	Non–Essential 80%	E 100% Sl 100% M 60%	Cyp 80%
271	YML016C	Essential 75%	Sl 100% Pf 60%	Mt 60%
272	YDR436W	Non–Essential 75%	M 50% Sl 50%	
273	YER012W	Essential 75%	Sl 88% Pf 75%	ER 62% N 62%
274	YIL095W	Non–Essential 88%	Sl 50%	
275	YDL043C	Non–Essential 82%	Sl 75% M 50%	Cyp 61%
276	YLL036C	Unknown	Tsc 100% Sl 100%	N 100%
277	YJL203W	Unknown	Cc 50% Ps 50% Pf 50% Sl 50%	Cyp 50%
278	YPR178W	Non–Essential 69%	Sl 77%	
279	YPL151C	Essential 83%	Sl 100% Pf 83%	Cyp 67%
280	YBR055C	Non–Essential 67%	Sl 77% M 62%	Cyp 60%
281	YMR137C	Non–Essential 100%	Sl 80% M 60%	
282	YMR137C	Non–Essential 100%	Cc 75% Cco 50% Cf 50% Sl 50%	
283		Non–Essential 100%	M 50% Cf 50% Sl 50%	Cyp 50%
284		M 67% Ct 67% Sl 67% Tf 67%	Pm 67%	
286	YDL006W	Non–Essential 100%	E 100% Sl 100% M 50% Ct 50% R 50% Tf 50%	Cyp 50% Mt 50%

287	YBL056W	Non–Essential 91%	Sl 54%	
288	YBR125C	Non–Essential 100%	Cc 50% Cf 50%	Cyt 50%
289	YOR090C	Unknown	M 50% Ps 50% Sl 50%	N 50%
290	YJR059W	Non–Essential 100%	Ct 100% R 100%	
292	YER075C	Non–Essential 86%	Sl 57%	
293	YLR196W	Essential 79%	Sl 87% Pf 67%	Cyp 60%
294	YCR055C	Unknown		
295	YMR022W	Non–Essential 83%	Sl 100% Cr 67%	Cyp 50%
296	YPL022W	Non–Essential 82%	Sl 58%	
297	YML095C	Non–Essential 71%	Sl 79%	
298	YMR201C	Non–Essential 60%	Sl 83% Cc 50%	
299	YMR201C	Non–Essential 67%	Sl 75% Cc 50%	N 50%
300	YBR114W	Non–Essential 92%	Sl 69% E 54%	
301	YBR114W	Non–Essential 83%	Sl 100% M 67% E 67%	Mt 50%
302	YGR258C	Essential 67%	Sl 100% Pf 67%	
304	YER173W	Non–Essential 62%	Sl 50%	
305	YER173W	Essential 72%	Sl 89% Cc 50%	
306		Unknown	Cr 100% Pf 50% Cf 50% Sl 50%	Mt 50%
307	YJR035W	Non–Essential 69%	Sl 66%	
308	YKL113C	Unknown	Cc 100% Sl 100%	N 100%
309	YDR030C	Essential 100%	Sl 100% Pf 86%	Cyp 86%
310	YDR030C	Essential 86%	Sl 100% Pf 86%	Cyp 71%
311	YER171W	Non–Essential 76%	Sl 73%	
312	YER171W	Non–Essential 64%	Sl 81%	
313	YDR419W	Non–Essential 88%	Sl 75% M 62% E 50%	
315	YNL250W	Non–Essential 100%	Sl 57%	
316	YNL250W	Non–Essential 73%	Sl 92%	
317	YER095W	Unknown	Sl 100% M 50% E 50% Cc 50% Cf 50%	Cyp 50% N 50%
318	YML032C	Non–Essential 100%		
319	YML032C	Non–Essential 100%	Cc 100% Cf 100% Sl 100%	N 100%
320	YPL153C	Unknown	Sl 56%	
321	YPL153C	Unknown	Sl 83%	N 50%
322	YPL153C	Unknown	Cc 100% Cco 100% Sl 100%	N 100%
323	YGL163C	Non–Essential 62%	Sl 75%	
324	YDR076W	Non–Essential 67%	Sl 67%	
325	YDR004W	Non–Essential 71%		
326	YDL059C	Non–Essential 70%	Sl 84%	
327	YDL059C	Unknown	Sl 84%	
328	YGL058W	Non–Essential 75%	Sl 80%	Cyp 60%
329	YJR052W	Unknown		
331	YDR217C	Non–Essential 75%	Tsc 50% Sl 50%	
332	YNL098C	Essential 100%	R 100% Sl 100% Pa 100%	Pm 100%
333	YGL158W	Non–Essential 75%	M 69% Sl 62%	
334	YLR248W	Non–Essential 100%	Sl 100% M 50% E 50%	Cyp 75%
336	YLR263W	Non–Essential 75%	Sl 75% M 50% Tsc 50%	Cyp 75%
337	YAR007C	Non–Essential 60%	Sl 90%	
338	YAR007C	Unknown	Sl 100% Cc 75% E 50% Cf 50%	Cyp 50%

339	YNL312W	Essential 60%	Sl 80%	
340	YNL312W	Non–Essential 60%	Sl 80% Cc 60%	
341	YJL173C	Unknown	M 71% Sl 57%	
342	YJL173C	Non–Essential 67%	Sl 81% M 62%	
343	YJR068W	Non–Essential 60%	Sl 64%	
344	YJR068W	Non–Essential 75%	Sl 62%	
345	YNL290W	Non–Essential 67%	Sl 83%	Cyp 50%
346	YNL290W	Unknown	Sl 82%	
347	YOL094C	Unknown	Sl 86%	
348	YOL094C	Unknown	Sl 70%	
349	YDL138W	Non–Essential 100%	M 67% Sl 67%	
350	YLR383W	Non–Essential 60%	Cc 50% Pf 50% Sl 50%	
352	YPR165W	Non–Essential 62%	Sl 75%	Cyp 56%
353	YNL090W	Non–Essential 89%	Sl 60%	
354	YKR055W	Non–Essential 60%	Sl 70% M 60%	Cyp 60%
355	YNL180C	Unknown	M 83% Sl 67% E 50%	Cyp 67%
356	YMR139W	Non–Essential 71%	Sl 72%	
357	YFL033C	Non–Essential 71%	Sl 57%	
358	YOR191W	Essential 67%	Sl 67%	N 67%
359	YPR018W	Essential 100%	Pf 100% Sl 100% Ct 67%	Cyp 67%
360	YMR235C	Non–Essential 100%	Sl 100% Tsc 67% Ct 67%	Cyp 100% N 67%
361	YIL066C	Unknown	Sl 68%	
362	YOR341W	Essential 100%	Sl 100% Tsc 60%	N 60%
363	YNL113W	Non–Essential 67%	Sl 85%	
364	YPR110C	Non–Essential 67%	Sl 79%	
365	YPL131W	Essential 100%	Ps 100% Sl 100%	Cyp 50% N 50%
366	YDL147W	Essential 80%	Sl 100% Pf 90%	ER 80% N 80%
367	YLR340W	Non–Essential 69%	Sl 93%	
368	YDR394W	Essential 60%	Sl 81% Pf 61%	
370	YPR137W	Non–Essential 67%	Sl 50%	Cyp 50%
372	YER125W	Non–Essential 67%	Sl 67%	
373	YER125W	Non–Essential 67%	Sl 50%	
375	YGL244W	Non–Essential 100%	Tsc 67% Sl 67%	N 67%
377	YCR009C	Non–Essential 72%	Sl 85% M 55%	Cyp 55%
378	YDR388W	Non–Essential 70%	Sl 85% M 74%	Cyp 52%
379	YDR388W	Unknown	Sl 75% M 56%	
380	YDR388W	Non–Essential 71%		
381	YDR129C	Unknown	Sl 88% M 75% E 50%	Cyp 50%
383	YDR143C	Unknown	Sl 70% Ct 50%	
384	YFR040W	Non–Essential 80%	Sl 58% M 50%	Cyp 58%
385	YJL098W	Non–Essential 73%	Sl 58%	
386	YCR008W	Non–Essential 100%	Cr 50%	
387	YKL193C	Non–Essential 65%	Sl 65%	
388	YLR208W	Non–Essential 75%	Sl 75% Ct 50%	
389	YGL137W	Non–Essential 64%	Sl 80%	
390	YDL195W	Unknown	Sl 100% Ct 50%	Cyt 50% TV 50%
391	YGL100W	Non–Essential 81%	Sl 82% M 59%	

392	YMR059W	Non–Essential 81%	Sl 73%	Cyp 50%
394	YHR119W	Non–Essential 75%	Sl 60%	
395	YLR403W	Essential 60%	Sl 80% Pf 60%	
396	YIR001C	Non–Essential 80%	Sl 80% Tsc 50% Ps 50%	Cyp 70%
397	YKL130C	Unknown	Sl 75% M 50%	Cyp 50%
398	YBR130C	Non–Essential 83%	Sl 71%	Cyp 57%
399	YDL225W	Unknown	Sl 76%	
400		Non–Essential 88%		
401	SF3	Non–Essential 100%	Sl 75% Cc 50% Cr 50%	Cyp 75%
402	YGL208W	Unknown	Sl 88%	
403	YLR442C	Non–Essential 100%	M 50% Sl 50%	
404	YLR442C	Non–Essential 69%	Sl 69% M 54%	
405	YDR227W	Non–Essential 71%	Sl 71% Cc 57%	
406	YDR227W	Non–Essential 71%	Sl 71%	
407	YDL047W	Non–Essential 68%	Sl 75% M 52%	
408	YNL032W	Unknown	M 88% Sl 75% E 50%	Cyp 50%
409	YGL213C	Non–Essential 100%	Cr 50% Sl 50%	
410	YOL113W	Unknown	Sl 100% M 75% E 50%	Cyp 50%
411	YDR328C	Non–Essential 67%		
412	YPL026C	Essential 67%	Sl 100% M 75%	Cyp 50% Mt 50%
413	YIL147C	Non–Essential 67%	Sl 71%	
414	YHR030C	Non–Essential 78%	Sl 73%	
416	YFL008W	Essential 100%	Cc 100% Co 100%	
417	YPR054W	Non–Essential 71%	Sl 86% Pf 57% Cr 57%	
418	YPR054W	Unknown	Sl 73% Pf 55% Cr 55%	
419	YML058W	Non–Essential 78%	M 56% Sl 56%	
420	YML058W	Unknown	Sl 100% M 50% Pf 50% Ct 50%	Mt 50%
422	YDR477W	Non–Essential 80%	Sl 67%	
423	YGL115W	Non–Essential 75%		
424	YIL061C	Non–Essential 69%	Sl 57%	
425	YLL011W	Essential 92%	Sl 100% Pf 85%	Cyp 69%
426	YMR117C			
427	YNL012W	Non–Essential 71%	Sl 86% Cc 57% Ct 57%	
428	YHR152W	Non–Essential 67%	Sl 100%	
429	YHR014W	Non–Essential 60%	Sl 100%	Cyp 60%
430	YDR523C	Non–Essential 82%	Sl 71%	
432	YER161C	Non–Essential 61%	Sl 62%	
434	YNL189W	Essential 63%	Sl 71%	
435	YLR006C	Non–Essential 100%	Cr 75% R 75% Co 50%	
436	YNR031C	Non–Essential 88%	Sl 75% M 50%	Cyp 50%
437	YHL007C	Non–Essential 75%	Sl 88% M 50% E 50%	Cyp 62%
438	YOR212W	Unknown	Sl 83%	Cyp 69%
439	YNL244C	Unknown	Sl 76%	Cyp 66%
440	YJR007W	Unknown	Sl 100% Ps 64%	Cyp 93%
441	YJL187C	Non–Essential 67%	Sl 67% Cc 50%	
442	YDR146C	Unknown	Sl 86% Tsc 57%	N 71%
443	YDR260C	Non–Essential 73%	Sl 64%	

444	YDR395W	Non–Essential 100%	Tsc 50% Ct 50% Co 50% Sl 50%	Cyp 50% N 50%
445	YBR198C	Essential 73%	Sl 73%	Cyp 53%
446	YBR083W	Non–Essential 67%	Tsc 67% Sl 67%	N 67%
448	YML064C	Non–Essential 64%	Sl 76%	
449	YML064C	Non–Essential 67%	Sl 69%	
450	YML064C	Unknown	Sl 67%	Cyp 67%
451	YML064C	Unknown	Sl 75% E 50% Cc 50%	
452	YNL128W	Essential 60%	Sl 67% M 50% Pf 50%	Cyp 50%
453	YDR460W	Essential 100%	Cc 100% Tsc 100% Pf 50% Sl 50%	N 50%
454	YJL138C	Unknown	Sl 100% Ps 50%	Cyp 88%
457	YOL006C	Non–Essential 67%	Sl 67%	N 50%
458	YNL088W	Essential 80%	Tsc 80% Sl 80%	Cyp 60% N 60%
459	YNL088W	Non–Essential 88%	Sl 62% Tsc 50%	N 50%
460		Non–Essential 100%	M 50% E 50%	
461		Unknown		
462		Unknown	M 71% Sl 71%	Cyp 57%
463	YKL166C	Non–Essential 67%	Sl 67%	
464	YOL102C	Essential 100%	Tsc 75% Sl 50%	N 50%
465	YOL115W	Non–Essential 60%	Sl 80%	
467	YJL087C	Non–Essential 100%	Sl 100%	N 100%
468	K1,ROX4,SFL2,UMR7	Non–Essential 88%	Sl 67%	Cyp 67%
469	YKL210W	Unknown	M 75%	
471	YOR339C	Non–Essential 67%		
472	YLR306W	Non–Essential 67%	E 67% Sl 67%	
473	YDR092W	Non–Essential 80%		
474	YDR092W	Non–Essential 100%		
475	YBR082C	Non–Essential 100%	Pf 75% Sl 75%	Cyp 50%
476	YER100W	Essential 69%	Sl 79%	
478	YDL190C	Non–Essential 100%	Cc 50%	
480	YPL139C	Non–Essential 100%	M 100% Sl 100%	Cyp 67%
481	YEL021W	Essential 100%	M 100% E 50% Sl 50%	Cyp 50%
482	YML115C	Unknown	Sl 81% M 56%	
483	YOR089C	Non–Essential 81%	Sl 75% M 56%	Cyp 69%
485	YAL002W	Non–Essential 100%	Sl 100% M 50% Pf 50% Ct 50%	Cyp 100% TV 50%
486	YOR043W	Non–Essential 100%	Cf 50%	
487	YOR230W	Essential 67%	Sl 100% Pf 67%	Cyp 89%
488	YOR229W	Non–Essential 67%	Sl 89%	
489	YDR369C	Non–Essential 60%	Sl 67%	
491	YDR369C	Non–Essential 100%	Sl 80% Cc 60%	N 60%
492	YJL141C	Non–Essential 87%		
493	YAR003W	Unknown	M 100% E 75% Sl 75%	Cyp 75%
494	YBL036C	Non–Essential 75%	Sl 90% M 60% E 60% Ct 50%	Cyp 50%
496	YBL049W	Non–Essential 60%	Sl 54%	
497	YBR094W	Non–Essential 100%	Cr 100% Sl 100%	Cyp 100% N 100%
498	YBR175W	Non–Essential 80%	Cc 57% Sl 57%	

499	YBR203W	Unknown	Sl 86%	Cyp 57%
500	YBR223C	Non–Essential 89%	Sl 67%	
501	YBR223C	Non–Essential 60%		
502	YBR267W	Non–Essential 100%		
503	YBR280C	Non–Essential 75%	Pf 75%	
504	YHR135C	Non–Essential 87%	Sl 56%	
505	YNL154C	Non–Essential 100%	Cc 100% Ct 100% Cr 100% Cf 100% Sl 100%	Pm 100%
506	YCL039W	Non–Essential 92%	Sl 53%	
508	YCL048W	Non–Essential 100%	M 50% Cc 50% Cf 50% Sl 50%	Cyp 50%
509	YCR001W	Non–Essential 83%	Sl 100% Ct 50%	
510	YCR079W	Non–Essential 82%	Sl 68% M 58% E 53%	
511	YDL025C	Non–Essential 60%		
512	YDL060W	Essential 75%		
513	YDL100C	Non–Essential 100%	M 62% Sl 50%	
514	YDL156W	Essential 80%	Sl 100% Pf 80%	Cyp 80%
515	YDL175C	Unknown	Sl 71%	Cyp 57%
516	YDL193W	Non–Essential 67%	Sl 100% Ct 50%	Cyp 67%
517	YDL213C	Essential 76%		
518	YDR128W	Non–Essential 79%	Sl 77%	Cyp 54%
519	YDR131C	Non–Essential 89%	Sl 78%	
520	YDR165W	Non–Essential 100%	M 100% Sl 100%	Cyp 100%
521	YDR200C	Non–Essential 64%	Sl 93%	
522	YDR219C	Essential 100%	Sl 100% Pf 67% Ct 67% Cr 67%	Mt 67%
523	YDR247W	Non–Essential 75%		
524	YDR266C	Unknown	M 50% Co 50% Sl 50%	Cyp 50%
525	YDR267C	Non–Essential 93%	Sl 67% M 53%	Cyp 53%
526	YDR282C	Non–Essential 100%	Sl 100% M 50% E 50% Pf 50%	Cyp 50% ER 50%
527	YDR306C	Unknown	Sl 60%	
528	YDR316W	Non–Essential 86%		
529	YDR324C	Non–Essential 100%		
530	YDR339C	Non–Essential 75%	Ct 75% Sl 75% Pf 50% Cr 50%	
531	YDR365C	Unknown	Sl 62%	
532	YDR398W	Non–Essential 82%	Sl 78% M 56%	Cyp 67%
534	YDR482C	Unknown	Cc 50% Tsc 50% Pf 50% Cr 50% Cf 50% Sl 50%	Mt 50%
535	YDR500C	Non–Essential 100%	M 100% E 100% Sl 100%	Mt 100%
536	YER041W	Unknown	Sl 75% M 50%	N 75%
537	YER066C–A	Non–Essential 100%	Sl 57%	
538	YER117W	Non–Essential 67%	Sl 67%	
540	YFR003C	Essential 100%	Sl 100% M 50% E 50% Cc 50% Ps 50% Pf 50% Ct 50% Cf 50%	Cyp 50% Mt 50%
541	YFR016C	Non–Essential 88%	Sl 62% Cf 50%	
542	YFR024C–A	Non–Essential 100%		
543	YFR031C	Non–Essential 100%	Tsc 100% M 50% Sl 50%	Cyp 50%
544	YGL004C	Unknown	Sl 92% Pf 64%	ER 60% N 60%
545	YGL081W	Non–Essential 69%	Sl 75% M 50%	

546	YGL131C	Unknown	Sl 75% E 50% Cc 50%	
547	YGL220W	Non–Essential 100%		
548	YGR052W	Essential 60%	Sl 67% Pf 50%	
549	YGR054W	Non–Essential 100%	Tsc 80% Sl 60%	
550	YGR067C	Non–Essential 75%	Sl 62%	
551	YGR103W	Essential 81%	Sl 56% Tsc 50%	
552	YGR173W	Non–Essential 67%	Sl 67% Pf 50% Cr 50%	
554	YGR278W	Non–Essential 67%	M 100% Sl 100% E 67%	Cyp 100%
555	YGR280C	Non–Essential 67%		
556	YHL010C	Non–Essential 100%		
557	YHR022C	Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
559	YHR052W	Essential 83%	Tsc 71% Sl 57%	N 57%
560	YHR070W	Essential 100%	M 50% Sl 50%	
563	YHR115C	Non–Essential 100%		
564	YHR186C	Non–Essential 71%	Sl 71%	Cyp 57%
565	YHR188C	Essential 67%	Pf 71% Sl 71% Ct 57%	
566	YHR196W	Non–Essential 79%	Sl 79% M 50%	Cyp 50%
567	YHR197W	Unknown	Sl 62%	
568	YHR199C	Non–Essential 75%	Sl 75% Cr 50%	
569	YIL007C	Non–Essential 80%	Sl 100% E 80% M 60%	Cyp 80%
570	YIL079C	Non–Essential 67%	Tsc 57% Sl 57%	N 57%
571	YIL113W	Non–Essential 75%	Cf 50% Sl 50%	
572	YJL020C	Non–Essential 100%	Sl 60%	
573	YJL068C	Non–Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
574	YJL069C	Essential 76%		
575	YJL149W	Essential 100%	M 100% Cc 100% Pf 100% Sl 50%	N 50%
576	YJR061W	Non–Essential 100%		
577	YJR110W	Essential 100%	M 100% E 100% Tsc 100% Cf 100% Sl 100%	N 100%
578	YKL095W	Essential 60%	Sl 87% Pf 53%	Cyp 60%
579	YKL018W	Non–Essential 100%	M 50% E 50% Cc 50% Cco 50% Cf 50% Sl 50%	Cyp 50%
580	YKL056C	Non–Essential 100%	M 100% E 100% Sl 100% Ct 50%	Cyp 100% Cyt 50%
581	YKL078W	Unknown	Sl 62%	
582	YKL161C	Non–Essential 60%	Sl 60%	
583	YKL215C	Non–Essential 100%	M 50% E 50% Ct 50% R 50% Sl 50% Tf 50%	Mt 50%
584	YKR017C	Non–Essential 67%	M 67% Tsc 67% Sl 67%	Cyp 67%
585	YMR284W	Non–Essential 79%	Sl 73%	
586	YMR284W	Non–Essential 100%	Sl 100%	Cyp 67%
587	YMR284W	Non–Essential 60%	Sl 60%	
588	YMR106C	Non–Essential 70%	Sl 70%	
589	YMR106C	Non–Essential 64%	Sl 66%	
591	YLR016C	Essential 60%	Sl 67%	
592	YLR074C	Non–Essential 60%		
593	YLR097C	Unknown	Sl 73% M 55%	
594	YLR186W	Non–Essential 60%	Sl 80%	

595	YLR186W	Non–Essential 83%	M 83% Sl 67% E 50%	Cyp 67%
596	YLR222C	Non–Essential 67%	Sl 77%	
597	YLR238W	Non–Essential 67%	Sl 71% Ct 57%	
598	YLR247C	Non–Essential 67%	Sl 71%	
599	YLR320W	Non–Essential 80%	Sl 80% E 60%	Cyp 60%
600	YLR320W	Non–Essential 100%	M 67% Sl 67%	Cyp 67%
601	YLR320W	Non–Essential 100%	Cr 100% Sl 100%	Cyp 100% N 100%
603	YLR352W	Non–Essential 67%	M 67%	
604	YLR427W	Unknown		
605	YML029W	Non–Essential 67%		
606	YML068W	Unknown	M 50% Cc 50% Pf 50% Sl 50%	Cyp 50%
607	YML088W	Unknown	Pf 100% M 50% Cc 50%	
608	YMR049C	Essential 74%		
609	YMR093W	Essential 60%		
610	YMR102C	Essential 67%	Pf 67% Sl 67%	
611	YMR291W	Non–Essential 100%	E 50% Sl 50%	Cyp 50%
613	YNL056W	Non–Essential 100%		
614	YNL094W	Non–Essential 75%	Sl 83%	
615	YNL094W	Non–Essential 100%	Cf 50% Sl 50%	Cyt 50%
617	YNL116W	Non–Essential 100%		
618	YNL157W	Unknown	Sl 75% M 50% Pf 50% Cr 50%	Mt 50%
619	YNL182C	Unknown	Sl 71% M 57%	
620	YNL260C	Unknown		CW 50%
621	YNL311C	Unknown	Sl 71%	
622	YNR047W	Essential 100%	M 100% E 100% Sl 100%	Cyp 100%
623	YOL045W	Essential 67%	Sl 100% Pf 67%	
624	YOL054W	Non–Essential 60%	Sl 69%	
625	YOL087C	Unknown	Sl 84%	
626	YOL128C	Non–Essential 62%	Sl 62% M 50% E 50%	Cyp 50%
627	YOR026W	Non–Essential 100%		
629	YOR353C	Essential 100%		
630	YMR104C	Non–Essential 100%	Sl 71%	
631	YPL150W	Non–Essential 74%	Sl 61%	
632	YPL170W	Non–Essential 100%	Ps 50%	
633	YPL236C	Non–Essential 100%	Ps 50% Sl 50%	Cyp 50%
634	YPR015C	Non–Essential 71%	Sl 71%	
635	YPR093C	Non–Essential 62%	Sl 88% Tsc 75%	N 62%
636	YFL038C	Non–Essential 60%	Sl 100% Ct 60%	Cyp 60%
637	YBR264C	Non–Essential 67%	Sl 83% M 67% E 67%	Cyp 67%
638	YNL093W	Non–Essential 67%	Pf 67% Sl 67%	Cyp 50%
639	YLR261C	Non–Essential 71%		
640	YIL063C	Essential 67%	Tsc 50% Ct 50% Sl 50%	N 50%
641	YPL074W	Non–Essential 100%	M 50% E 50% Sl 50%	Cyp 50%
642	YOR272W	Non–Essential 60%		

II(b). Predicted protein characteristics

It is common to associate the function of a protein with the known function of the complex in which it participates. Our results indicate, however, that for subunits of protein complexes identified by mass spectroscopic methods such association is not always meaningful. Indeed, the functional, phenotypic and localization based inhomogeneity of the halo proteins do not allow us to assign them a clear functional or localization based classification. Yet, the homogeneity of the core is quite remarkable, indicating that all core proteins should carry the functional and localization classification of the complex. We find that many complexes, for which we were able to assign an unambiguous functional or localization based classification, contain proteins with either unknown classification, or whose current classification does not agree with the classification of the other core proteins. For these core subunits we can offer rather reliable functional predictions. In the following table we list the proteins for which predictions regarding their classification is possible. In the first column we have the protein's name, and in the second the complex in which they appear, serving as the basis of our predictions. The confidence level of each prediction can be seen by looking up the specific complex in Table III. Next we show the known functional classification based on the MIPS database, followed by our prediction for the functional classification. The last two columns give the cellular localization from the MIPS database, followed by the predicted localization. Missing entries in the prediction columns imply that the confidence level of the prediction did not reach 50%.

Table IV

Protein	Compl. Nr.	Func. from MIPS	Predicted Func.	Loc. from MIPS	Predicted loc.
YAL002W	127	Pf Ct	Sl		
YAL016W	504	Cc Tsc Cf	Sl		
YAL027W	296		Sl		
YAL029C	398	Cc Ct Cf Sl			Cyp
YAL036C	120		Sl		Cyp
YAL047C	51	Cc	Sl	Cyt	
YAR009C	152		Sl		
YAR019C	92	Cc	Sl		
YBL004W	370		Sl		Cyp
YBL008W	171	Tsc Sl		N	Cyp
YBL029W	29		Sl		Cyp
YBL030C	392	M Ct Sl Tf		Mt	Cyp
YBL045C	392	E Sl		Mt	Cyp
YBL046W	268		Sl		
YBL049W	506		Sl		
YBL056W	287		Sl		
YBL058W	500	E Cc Ps Cf	Sl		
YBL075C	544	Cr Sl		Cyp	ER N
YBL099W	494	E Ct R Sl Tf		Mt	Cyp
YBL104C	95		Sl		
YBL108W	504		Sl		
YBR009C	392	Tsc Sl		N	Cyp
YBR010W	175	Tsc Sl		N	Cyp
YBR011C	101	M Sl		Cyp	Mt
YBR018C	101	M Sl		Cyp	Mt
YBR019C	155	M Sl		Cyp	N
YBR020W	635	M Tsc Sl		Cyp	ER N
YBR025C	532		Sl	Cyp	
YBR028C	504		Sl		
YBR035C	103	M	Sl		
YBR039W	392	E Ct R Sl Tf	M	Mt	Cyp
YBR057C	596	Cc Cf	Sl		
YBR059C	274	Pf	Sl		
YBR063C	489		Sl		
YBR072W	544	Cr Sl	Pf	Cyp N	ER
YBR078W	152	Cc Cf Co	Sl		
YBR098W	227	Cc	Sl		
YBR109C	72	Cc Ct Cf Sl		Cyt	Cyp
YBR112C	468	Tsc Sl		N	Cyp
YBR118W	273	Ps Sl	M Tsc Pf	Cyp	ER N
YBR125C	150		Sl		
YBR127C	544	Ct R Sl Tf		V	Cyp ER N
YBR133C	280	Cc Sl		Cyt	Cyp
YBR135W	95	Cc	Sl		
YBR160W	58	Cc Cf	Sl		Cyp

YBR170C	478	Pf Ct	Cc	N	
YBR175W	498		Cc Sl		
YBR184W	311		Sl		
YBR187W	389		Sl		
YBR195C	296	Cc Pf R Co Pa	Sl		
YBR196C	544	M E Sl		Cyp	ER N
YBR198C	445	Tsc Sl		N	Cyp
YBR205W	482	M Pf	Sl		
YBR208C	385	M	Sl		
YBR223C	500		Sl		
YBR225W	150		Sl		
YBR247C	439	Pf Sl		N	Cyp
YBR252W	448	M	Sl		
YBR260C	211	Cco	Sl		
YBR272C	544	Cc	Sl		ER N
YBR281C	449		Sl		
YBR288C	8	Ct	Sl		
YCL010C	128		Tsc		N
YCL018W	544	M Sl		Cyp	ER N
YCL028W	518		M Sl		Cyp
YCL029C	175	Cc Cf Sl		Cyt N	Cyp
YCL035C	392	Cr	Sl		Cyp
YCL037C	459	Tsc R	Cc Pf Sl	Cyp	N
YCL039W	506		Sl		
YCL042W	346		Sl		
YCL043C	396	M Pf Sl		ER	Cyp
YCL050C	187	M	Sl		N
YCL064C	635	M	Sl		N
YCR009C	378	Ct Cf Sl		Cyt	Cyp
YCR035C	434	Tsc	Sl		
YCR055C	294				
YCR073C	315	Cr R	Sl		
YCR076C	389		Sl		
K1	468	Tsc Sl		N	Cyp
YCR087W	531		Sl		
YDL006W	250	M Cr R Cf Co	Sl		Cyp
YDL013W	143	M	Sl		
YDL031W	65	Tsc	Sl		N
YDL043C	275	Tsc Sl		N	Cyp
YDL047W	384	Cc Cf	Sl		Cyp
YDL055C	578	M Co	Sl		Cyp N Mt
YDL084W	147	Tsc	Sl		
YDL086W	92		Sl		
YDL097C	252	Pf Sl		ER N	Cyp
YDL100C	513	Cr	M		
YDL101C	578	Cc Cco Sl		N	Cyp
YDL111C	187	Tsc	Sl		N

YDL113C	384		Sl		Cyp
YDL124W	280	M	Sl		Cyp
YDL126C	635	Cc Pf	M Sl		Cyp N
YDL132W	593	M Cc Pf	Sl		
YDL134C	54	M Cc Cf	Sl		Cyp
YDL145C	275	Ct Sl		TV	Cyp
YDL148C	97	Ps	Sl		
YDL159W	174	R Cf	Sl		
YDL160C	243	Tsc Sl		N	Cyp
YDL171C	407	M	Sl		
YDL185W	377	Pf Ct R Sl Tf		V	Cyp
YDL188C	54	M Cc Cf Co	Sl		Cyp
YDL190C	478	Pf	Cc		
YDL192W	392	Pf Ct Sl		G TV	Cyp
YDL193W	516		Sl		Cyp
YDL204W	389		Sl		
YDL225W	506	Cc Cf	Sl	Cyt	
YDR009W	152	M Tsc	Sl		
YDR071C	320		Sl		
YDR075W	268	Cf	Sl		
YDR085C	392	Cf Sl		Cyt	Cyp
YDR087C	116	Tsc	Sl		N
YDR091C	432	Tf	Sl		
YDR099W	483	Cc Cco Cf	Sl		Cyp N
YDR102C	531		Sl		
YDR116C	65	Ps	Sl		N
YDR128W	518		Sl		Cyp
YDR129C	381	Ct Cf Sl		Cyt	Cyp
YDR131C	635		Sl		N
YDR139C	203	Pf	Sl		
YDR141C	364		Sl		
YDR143C	383	Cf	Sl		
YDR148C	378	M E Sl		Mt	Cyp
YDR158W	280	M	Sl		Cyp
YDR162C	245	Pf	Sl		Cyp
YDR169C	86	Tsc	Sl		
YDR171W	564	Pf	Sl		Cyp
YDR190C	544	Cc Tsc Sl			Cyp ER N
YDR194C	559	Tsc Sl		Mt	N
YDR200C	521		Sl		
YDR214W	438		Sl		Cyp
YDR224C	175	Tsc Sl		N	Cyp
YDR255C	506		Sl		
YDR260C	443	Cc Cf Co	Sl	N	
YDR279W	162		Sl		
YDR300C	370	M Sl		Cyp	
YDR306C	527		Sl		

YDR312W	95	Cf	Sl		
YDR324C	161		Sl		N
YDR342C	494	M Ct Sl Tf		Pm	Cyp
YDR343C	494	M Ct Sl Tf		Pm	Cyp
YDR353W	626	M	Sl		Cyp
YDR356W	72	Cc Co Sl		Cyt	Cyp
YDR365C	531		Sl		
YDR386W	227	Cc	Sl		
YDR388W	378	Cf Sl		Cyt	Cyp
YDR394W	518	Pf Sl		ER N	Cyp
YDR398W	532		Sl		Cyp
YDR422C	588	M	Sl		
YDR432W	515	Tsc Pf Ct Sl		N	Cyp
YDR436W	387	Cr	Sl		
YDR453C	392	Cr	Sl		Cyp
YDR457W	109	Cc	Sl		
YDR460W	311	Cc Tsc Pf	Sl		
YDR465C	407	M	Sl		
YDR502C	392	M	Sl		Cyp
YDR523C	430	Cc Cf	Sl		
YEL013W	125	Pf Co Sl		V	Cyp
YEL015W	151		Sl	N	
YEL026W	392	Tsc	Sl		Cyp
YEL030W	468	Pf Cr Co	Sl	Mt	Cyp
YEL034W	67	M Ps Sl	Cc	Cyp	
YEL051W	125	Ct R Sl Tf		V	Cyp
YEL055C	171		Sl		Cyp
YEL060C	202	Pf Sl		V	Cyp
YER006W	65	Ct	Sl		N
YER015W	442	M Ct Sl		Pr	N
YER027C	28	M Tsc	Sl		Cyp
YER043C	462	M	Sl		Cyp
YER049W	389		Sl		
YER052C	137	M	Sl		Cyp
YER062C	419	M Cr	Sl		
YER067W	367		Sl		
YER070W	449	M Cc	Sl		
YER075C	292	Cc Cf	Sl		
YER077C	589		Sl		
YER078C	337	Pf	Sl		
YER083C	513		M		
YER089C	321		Sl		N
YER093C	173		Sl		
YER098W	525	Pf	Sl		Cyp
YER110C	462	Pf Ct Sl	M	Cyp N	
YER112W	243	Tsc Sl		N	Cyp
YER120W	566	M Tsc Sl		ER	Cyp

YER125W	378	Pf Cr Cf Sl		Pm	Cyp
YER132C	356	Cf	Sl		
YER138C	364		Cc Sl		
YER161C	396	Tsc Sl		N	Cyp
YER164W	153	Tsc	Sl		
YER165W	638	Tsc Ps Sl	Pf	Cyp N	
YER167W	174		Sl	Cyp	
YER171W	202	Cc Tsc Sl		N	Cyp
YER177W	626	Cc Cco Cf	M Pf Sl		Cyp N
YER178W	245	M E Sl		Mt	Cyp
YER182W	518		Sl		Cyp
YFL005W	102	Ct Cf Sl		Pm Cyp TV	
YFL006W	405		Sl		
YFL007W	406		Sl		
YFL016C	525	Pf Cr Sl		Mt	Cyp
YFL018C	392	M E Sl	Tsc	Mt	Cyp
YFL024C	385		Sl		
YFL030W	103	M	Sl		
YFL033C	357	Tsc Pf	Sl		
YFL034W	175		Sl		Cyp
YFL037W	445	Cc Sl		Cyt	Cyp
YFL038C	102	Ct Sl		G TV	
YFL039C	516	Cc Ct Cf Sl		Cyt	Cyp
YFL042C	364		Sl		
YFR008W	521		Sl		
YFR011C	363		Sl		
YFR016C	541		Sl		
YFR030W	544	M	Sl		Cyp ER N
YFR040W	384	Cc Cf	Sl		Cyp
YFR044C	352		Sl		Cyp
YFR053C	565	M E Sl	Pf	Cyp	
YGL004C	544		Sl		ER N
YGL008C	516	R Sl Tf		Pm	Cyp
YGL048C	438	Cc Pf Sl		ER N	Cyp
YGL081W	545		Sl		
YGL100W	518	Ct Cf Sl		N	Cyp
YGL106W	398	Cc Cf	Sl		Cyp
YGL111W	232		Sl		
YGL116W	42	Cc Pf Sl		N	Cyp
YGL121C	267		Sl		
YGL137W	275	Ct Sl		TV	Cyp
YGL146C	370		Sl		Cyp
YGL156W	175	M Sl		V	Cyp
YGL158W	333	Cc	M		
YGL171W	609	Tsc		N	
YGL173C	155	M Cc Tsc Sl		Cyp	N
YGL190C	230	Cc Cr Cf	Sl		Cyp

YGL197W	151	Cf	Sl		
YGL200C	366	Ct Sl		TV	ER N
YGL202W	378	M	Sl		Cyp
YGL234W	445	M	Sl		Cyp
YGL245W	439	Ps	Sl		Cyp
YGL256W	101	M E Sl		Cyp	Mt
YGR002C	442		Sl		N
YGR016W	630		Sl		
YGR033C	261		Sl		
YGR047C	167	Tsc Sl		N	Cyp
YGR083C	116	Ps Sl		Cyp	N
YGR086C	392		Sl		Cyp
YGR090W	321		Sl		Cyp N
YGR092W	90	Cc Tsc	Sl		
YGR103W	155		Tsc Sl		N
YGR111W	504		Sl		
YGR130C	387		Sl		
YGR142W	389	R	Sl	Cyp	
YGR145W	65		Sl		N
YGR154C	504		Sl		
YGR155W	392	M	Sl		Cyp
YGR161C	267		Sl		
YGR162W	65	Ps Sl	Tsc	Cyp	N
YGR165W	515		Sl		Cyp
YGR173W	552		Sl		
YGR180C	293	M Cc Sl		N	Cyp
YGR205W	287		Sl		
YGR209C	568	Cc Pf Cr	Sl		
YGR233C	256	M	Sl		Cyp
YGR250C	396		Sl		Cyp
YGR256W	392	M E	Sl		Cyp
YGR266W	589		Sl		
YGR267C	625	M	Sl		
YGR279C	125		Sl	CW	Cyp
YHL030W	364	Co	Sl		
YHL034C	396	Tsc Sl		N	Cyp
YHR019C	578	Ps	Sl		Cyp
YHR020W	462	Ps	M Sl		Cyp
YHR024C	222	Pf Sl		Mt	Cyp
YHR027C	120	Pf Sl	Cc	ER N	Cyp
YHR030C	418	Cc Cr R Cf	Sl		
YHR033W	518	M	Sl		Cyp
YHR043C	38	M	Sl		
YHR044C	525	M	Sl		Cyp
YHR052W	559		Tsc Sl		N
YHR064C	439	Cr	Sl		Cyp
YHR086W	434	Cc Tsc	Sl		

YHR098C	151		Sl		
YHR099W	442	Tsc	Sl		N
YHR107C	45	M Cc Cf Sl		Cyt	Cyp
YHR112C	504	M	Sl		
YHR115C	621		Sl		
YHR137W	378	M	Sl		Cyp
YHR169W	92	Tsc	Sl		
YHR170W	232	Tsc	Sl	Cyp	
YHR179W	631	E	Sl	Cyp Cyt	
YHR186C	564		Sl		Cyp
YHR188C	565	E	Pf Sl		
YHR196W	566		Sl		Cyp
YHR197W	567		Sl		
YHR199C	454		Sl		Cyp
YHR208W	280	M Cc Sl		Mt	Cyp
YIL035C	101	Cc Tsc Sl		N	Mt
YIL053W	483	M	Sl		Cyp
YIL070C	161	Sl		Mt	N
YIL075C	275	Tsc Pf Sl		ER N	Cyp
YIL094C	544	M	Sl	Mt	ER N
YIL097W	506		Sl		
YIL106W	91	Cc Tsc	Sl		
YIL108W	196		Sl		
YIL124W	389	M Cf	Sl	TV	
YIL125W	566	M E Sl		Mt	Cyp
YIL128W	202	Cc Tsc Sl		N	Cyp
YIR001C	396	Tsc	Sl		Cyp
YIR002C	116	Cc Cr	Sl		N
YIR005W	163	Tsc	Sl		
YJL005W	392	M Cc Cco R Cf Sl		Pm	Cyp
YJL008C	635	Pf Sl	Tsc	Cyp	ER N
YJL013C	42	Cc Sl		N	Cyp
YJL034W	439	Cc Pf Ct Sl Tf		ER	Cyp N
YJL047C	152	Tsp	Sl		
YJL052W	544	M E Sl		Cyp	ER N
YJL066C	544		Sl		Cyp ER N
YJL068C	80	M	Sl		Mt
YJL069C	596		Sl		
YJL074C	320	Cc Co	Sl		
YJL076W	387	Tsc	Sl	N	
YJL080C	392	Cc Sl		ER N	Cyp
YJL088W	101	M Sl		Cyp	Mt
YJL098W	424	Cc Cf	Sl		
YJL106W	159	Cc Cf	Sl		
YJL107C	454		Sl		Cyp
YJL109C	566		Sl		Cyp
YJL115W	321	Tsc	Sl		N

YJL117W	79	M R Tf	Sl		
YJL124C	243	Tsc	Sl		Cyp
YJL128C	245	M Cr R	Sl		Cyp
YJL130C	295	M Sl		N	Cyp
YJL156C	468	R	Sl		Cyp
YJL173C	341	Cc Sl	M	N	
YJL197W	116	Pf	Sl		N
YJL207C	531		Sl		
YJR007W	116	Ps Sl		Cyp	N
YJR016C	352	M Sl		Mt	Cyp
YJR017C	109	Tsc	Sl		
YJR027W	356		Sl		
YJR028W	356		Sl		
YJR029W	14		Sl		
YJR045C	578	Pf Ct Cr Sl	M Tsc	Mt	Cyp ER N
YJR053W	17	Cc	Sl	Cyt	
YJR070C	532		Sl		Cyp
YJR072C	445		Sl		Cyp
YJR074W	137	Pf Ct	Sl		Cyp
YJR077C	544	M Ct R Sl Tf	Tsc	Mt	Cyp ER N
YJR090C	136	M Cc Ct Cr Cf	Sl		
YJR121W	566	E Ct R Sl Tf	M	Mt	Cyp N
YJR132W	516	M	Sl		Cyp
YJR134C	151		Sl		
YJR139C	275	M	Sl		Cyp
YJR141W	342		Sl		
YJR144W	65	Cc Sl		Mt	N
YKL009W	166	M Tsc Ps	Sl		
YKL014C	110		Sl		
YKL035W	392	M E Pf	Sl		Cyp Mt
YKL060C	544	M E Sl		Cyp	ER N
YKL078W	581	Tsc	Sl		
YKL080W	392	Pf Ct R Sl Tf		V	Cyp
YKL082C	65		Sl		N
YKL085W	626	M E Sl		Mt	Cyp
YKL103C	252	Pf Sl		V	Cyp
YKL129C	72	Ct Cf Sl		Cyt	Cyp
YKL140W	151	M	Sl		
YKL143W	150	Cr	Sl		
YKL152C	273	M E Sl	Pf	Cyp	ER N
YKL157W	280	M Pf Sl		Ext	Cyp
YKL166C	638	Tsc Cco Sl	M Pf	Cyp	
YKL172W	559	Tsc	Sl		N
YKL205W	125	Tsc Sl		N	Cyp
YKL206C	273		Sl		ER N
YKL214C	140		Sl		
YKL218C	364	M	Sl		

YKR007W	389		Sl		
YKR014C	638	Pf Ct	Sl		Cyp
YKR024C	231	Tsc	Sl		
YKR026C	116	Ps Sl		Cyp	N
YKR028W	424	Cc Cf	Sl		
YKR046C	430	E Cc	Sl		
YKR048C	578	Cc Pf Cf Co Sl		N	Cyp
YKR051W	589		Sl		
YKR055W	354	Cf	Sl		Cyp
YKR067W	389	Tf	Sl		
YKR081C	551		Sl		
YLL011W	425	Tsc Sl		N	Cyp
YLL019C	624		Sl		
YLL034C	152		Sl		
YLL040C	72	Pf	Sl		Cyp
YLL050C	392	Pf Ct Cf Sl		Cyt	Cyp
YLR002C	65	Pf	Sl		N
YLR006C	295	M Cr R Pb	Sl		Cyp
YLR044C	544	M E Sl		Cyp	ER N
YLR086W	364	Co	Sl		
YLR092W	398	M R Tf	Sl		Cyp
YLR096W	167	Sl		Pm	Cyp
YLR106C	152		Sl		
YLR129W	596	Cc	Sl		
YLR148W	250	Pf Ct Sl		V	Cyp
YLR153C	439	M E	Sl		Cyp
YLR154C	459		Sl		N
YLR180W	452	M	Cc Pf Sl		Cyp
YLR187W	414		Sl		
YLR196W	293		Sl		Cyp N
YLR197W	171	Tsc Sl		N	Cyp
YLR199C	273		Sl		ER N
YLR222C	384		Sl		Cyp N
YLR231C	55	M	Sl		
YLR241W	10		Sl		
YLR247C	598		Sl		
YLR259C	626	Pf Cr Sl	M Cc	Mt	Cyp ER N
YLR261C	129		Ct		
YLR271W	589		Sl		
YLR276C	56		Sl		
YLR288C	199	Cc Co	Sl		
YLR289W	152	Ps	Sl		
YLR291C	116	Ps Sl		Cyp	N
YLR314C	45	Cc Cf Sl		Cyt	Cyp
YLR326W	179		Sl		Cyp
YLR328W	7		Sl		
YLR347C	321	Pf Ct Sl		Cyp	N

YLR352W	53		Sl		Cyp
YLR354C	101	M E Sl		Cyp	Mt
YLR355C	462	M Sl		Mt	Cyp
YLR362W	174	R Cf	Ct Sl		
YLR383W	350	Cc	Pf Sl		
YLR386W	424		Sl		
YLR392C	372		Sl		
YLR449W	132	Pf	Sl	N	
YML006C	167		Sl		Cyp
YML008C	392	M Sl		ER L	Cyp
YML020W	588		Sl		
YML048W	407	M Co	Sl		
YML049C	387	Tsc Ct	Sl		
YML058W	419	M Cc	Sl		
YML064C	589	Cc Cco	Sl		
YML072C	443		Sl		
YMR005W	385	Ps	Sl		
YMR012W	634	Ps Co	Sl	Cyp	
YMR022W	295	Pf Cr Cf Sl		ER	Cyp
YMR028W	407	Cc Ps Cco	Sl		
YMR029C	521		Sl		
YMR055C	22	Cc	Pf		
YMR058W	125	Ct R Sl Tf		Pm	Cyp
YMR059W	392	Tsc Sl		N	Cyp
YMR066W	525		Pf Sl		Cyp
YMR086W	422		Sl		
YMR102C	200		Sl		
YMR104C	630	Cc	Sl		
YMR108W	525	M Sl		Mt	Cyp
YMR109W	72	Ct Cf Sl		Cyt	Cyp
YMR135C	506		Sl		
YMR186W	223	Cr Sl	M	Cyp	
YMR190C	498	Cc Cf	Sl		
YMR196W	407		Sl		
YMR209C	385		Sl		
YMR214W	438	Pf Sl		ER	Cyp
YMR223W	128	Pf	Tsc		N
YMR226C	588		Sl		
YMR229C	425	Tsc Sl		N	Cyp
YMR246W	532	M Pf	Sl		Cyp
YMR275C	211	Pf	Sl		
YMR290C	65	Cc	Sl		N
YMR304W	275	Pf	Sl		Cyp
YMR311C	132	M	Sl		
YMR315W	118		Sl		Cyp
YMR318C	404	M E	Sl		
YMR319C	494	Ct R Sl Tf	Tsc	Pm	Cyp N

YMR323W	201	M E	Sl		
YNL027W	150	Tsc Cr R	Sl		
YNL035C	166		Sl		
YNL037C	544	M E Tsc Sl		Mt	Cyp ER N
YNL040W	10	M	Sl		
YNL055C	638	Ct Sl Tf	M Pf	Mt	Cyp
YNL063W	140		Sl		
YNL064C	161	Cc Pf Ct Cr Sl		Cyp ER	N Mt
YNL071W	252	M E Sl		Mt	Cyp N
YNL085W	550	Tsp	Sl		
YNL093W	638	Pf Ct	Sl		Cyp
YNL094W	614		Sl		
YNL106C	162	M	Sl		
YNL110C	182		Sl		
YNL116W	621		Sl		
YNL118C	243	E	Sl		Cyp
YNL124W	31		Sl		Cyp
YNL128W	452	Cco	Sl		Cyp
YNL135C	635	Pf Sl		Cyp	N
YNL139C	504	Tsc Ps	Sl		
YNL161W	32		Sl		
YNL181W	389		Sl		
YNL182C	619		Sl		
YNL189W	515	Pf Ct Co Sl		N	Cyp Mt
YNL201C	268	M	Sl		
YNL207W	150		Sl		
YNL208W	5		Sl		
YNL227C	638	Pf	Sl		Cyp
YNL229C	364	M	Sl		
YNL308C	155		Tsc Sl		N
YNL317W	255	Tsc	Sl	N	Cyp
YNL334C	504	Cr	Sl		
YNR001C	392	M E Sl		Mt	Cyp
YNR008W	392	M	Sl	Mc	Cyp
YNR016C	532	M Sl		ER N	Cyp
YNR031C	436	Cr R Co	Sl		Cyp
YNR052C	167	M Tsc Cf Sl		N	Cyp
YNR053C	589		Sl	N	
YNR054C	531		Sl		
YNR058W	245	M	Sl		Cyp
YOL128C	626		Sl		Cyp
YOL139C	638	Ps Cf Sl	Pf	Cyp	
YOL149W	150	Tsc	Sl		
YOR001W	434		Sl		
YOR018W	333	Cr	M		
YOR027W	621	Cr Cf	Sl		
YOR032C	40		Sl		

YOR035C	72	Ct Cf Tf	Sl		Cyp
YOL041C	65		Sl		N
YOL055C	566	Tsc	Cc Ct Sl		Cyp N
YOL078W	494		Sl		Cyp
YOL082W	175		Sl		Cyp
YOL087C	625		Sl		
YOL100W	261		Sl		
YOL111C	525	Pf	Sl		Cyp
YOR056C	624		Sl		
YOR073W	26		Sl		
YOR086C	287		Sl		
YOR089C	638	Pf Ct Sl		TV	Cyp
YOR136W	544	M E Tsc Sl		Mt	Cyp ER N
YOR142W	312	M E	Sl	Mt	
YOR172W	241		Sl		
YOR176W	293	M R Sl		Mt	Cyp
YOR206W	559	Ct Co	Tsc Sl	N	
YOR215C	150		Sl		
YOR220W	414		M Sl		
YOR227W	132		Sl		
YOR229W	487	Tsc Sl		N	Cyp
YOR230W	487	Tsc Sl		N	Cyp
YOR232W	377	Pf Ct Sl		Mt	Cyp
YOR244W	385	Cc Pf	Sl		
YOR299W	418	M	Sl		
YOR310C	370	Tsc Sl		N	Cyp
YOR317W	510	M	Sl		
YOR319W	118	Tsc Sl		N	Cyp
YOR323C	510	M	Sl		
YOR329C	132	Pf Ct	Sl		
YOR331C	392		Sl		Cyp
YOR367W	1	Co	Sl		
YOR368W	199	Cc	Sl		
YOR374W	544		Sl	Mt	Cyp ER N
YOR378W	56	Cr Tf	Sl		
YPL004C	392		Sl		Cyp
YPL009C	232		Sl		
YPL012W	171		Sl		Cyp
YPL018W	506	Cc	Sl		
YPL029W	498	M Tsc Ps Sl	Cc	Mt	
YPL031C	256	M E Cc Tsc Sl		N	Cyp
YPL038W	203	M Tsc	Sl		
YPL040C	22	Ps Sl	Pf	Mt	
YPL061W	544	E Sl	Tsc	Cyp	ER N
YPL093W	65		Sl		N
YPL110C	510		Sl		
YPL115C	174	Cf Co Pa	Sl		

YPL126W	566	Cc Sl		N	Cyp
YPL140C	42	Cc Cr Cf Co	Sl		Cyp
YPL150W	631		Sl		
YPL161C	48	M R Cf	Sl		
YPL171C	504	E	Sl		
YPL195W	8	Ct	Sl		
YPL217C	95	Tsc	Sl		
YPL222W	79		Sl		
YPL226W	252	Ps Tf	Sl	N	Cyp
YPL235W	544	Cc	Sl		Cyp ER N
YPL240C	81	E Cc Cr Cf Sl	M	Cyp	
YPL249C	379		Sl		
YPL258C	638		Pf Sl		Cyp
YPR003C	589	R Tf	Sl		
YPR015C	634	Tsc	Sl		
YPR017C	102	Ct Sl		TV	
YPR040W	385		Sl		
YPR054W	418	Cco Cf	Sl		
YPR069C	140	M Co	Sl		
YPR093C	635		Sl		N
YPR115W	173	Tsc	Sl		
YPR121W	275		Sl		Cyp
YPR137W	370	Tsc	Sl		Cyp
YPR143W	551		Sl		
YPR159W	167	M Cf Co Sl		G	Cyp
YPR164W	152		Sl		
YPR167C	589	M	Sl		
YPR191W	293	E Pf Sl		Mt	Cyp
YDR239C	173		Sl		
YML085C	378	Cc Sl		Cyt	Cyp
YML124C	125	Cc Sl		Cyt	Cyp
YMR120C	280	M	Sl		Cyp

III. Detailed characterization of the complexes from MIPS

III(a). List of complexes with their predicted characteristics

The functional, phenotypic and localization based homogenity of the core allows us to make specific predictions regarding the deletion phenotype, functional role and the cellular localisation of the complexes uncovered by MIPS. This table offers a summary of these predictions, by showing each complex, in the order as they were presented in MIPS, together with their precited characteristics. For each complex we show in the first column the complex number, as given in MIPS, The second column indicates the predicted essentiality of the complex, with the percentage of the core proteins with known deletion phenotype that lead to our prediction. That is, an 80% essentiality means that 80% of the core proteins are known to be essential. The third and fourth columns give the predicted functional classification and cellular localization for each complex, together with the percentage of the core proteins that share the indicated function or localization. As some proteins can have multiple functions, we can predict if the complex simultaneously belongs to several functional classes. Again, the percentage denotes the number of core proteins that share the indicated functional class/localization. Missing entries indicate that none of the functional classes/localization based predictions reach the 50% confidence level. The functional classes appearing in the table, together with their acronyms are: metabolism (M), energy (E), cell cycle (Cc), transcription (Tsc), protein synthesis (Ps), protein fate (Pf), cellular transport (Ct), cellular communication and signal transduction (Cco), cellular rescue defens and virulence (Cr), regulation (R), cell fate (Cf), transposable elements (Tsp), cellular organization (Co), subcellular localization (Sl), protein activity (Pa), protein with binding function (Pb), transport facilitation (Tf).

The localization classes (and their acronyms) are: extracellular (Ext), cell wall (CW), plasma membrane (Pm), cytoplasm (Cyp), cytosceleton (Cyt), ER, golgi (G), transport

vesicles (TV), nucleus (N), mitochondria (Mt), peroxisome (Pr), endosome (En), vacuole (V), microsomes (Mc), lipid particles (L).

Table V

Compl. Nr.	Essentiality	Predicted function	Predicted localization
1	Non–Essential 100%	Tsc 100% Cf 100% Sl 100% R 50%	Cyp 100%
2	Non–Essential 100%	Tsc 100% Sl 67%	Cyp 67%
3	Unknown	Cc 100% Sl 100%	N 100% Pm 50% G 50%
4	Non–Essential 100%	Tsc 100% Sl 100% Cc 67%	N 100%
6	Essential 100%	Pf 100% Sl 100%	Cyp 100%
7	Non–Essential 86%	Cc 100%	
8	Non–Essential 100%	M 67% E 67%	
10	Non–Essential 100%	M 100% Tsc 100% Sl 100% Cc 50%	N 100%
11	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
12	Unknown	Cc 100% Cf 100% Sl 83% M 50%	Cyt 100%
13	Non–Essential 72%	Sl 100% Cf 83%	Cyt 94%
14	Non–Essential 75%	Ct 100% Sl 100% Cf 75%	Cyt 100%
15	Essential 100%	Cc 100% Sl 100%	Cyt 100%
16	Non–Essential 64%	Sl 100% Cc 64%	Cyt 82%
17	Non–Essential 100%	Cc 80% Ct 80% Sl 80%	Cyt 80%
18	Non–Essential 100%	Cc 100% Ct 100% Sl 100%	Cyt 50% N 50%
19	Non–Essential 100%	Cc 100% Ct 100% Sl 100%	Cyt 100%
20	Essential 100%	Ct 100% Sl 100%	Cyp 100% Pm 60%
22	Non–Essential 100%	Pf 100% Co 100% Sl 100%	Cyp 100%
25	Essential 100%	M 100% Pf 100% Sl 100%	Cyp 100%
26	Non–Essential 100%	M 100% Sl 100% Cf 50%	Pm 100%
28	Non–Essential 100%	M 100% E 100% Sl 100%	Mt 100%
29	Non–Essential 100%	M 100% Sl 100%	Mt 100%
30	Unknown	R 100% Sl 100% Tf 100%	Pm 100%
31	Non–Essential 100%	Sl 100% Tf 100% Ct 88% R 88% Pf 62%	V 100%
33	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
34	Unknown	Tsc 100% Sl 78%	N 89%
36	Non–Essential 100%	Tsc 100% Cf 100% M 50% Sl 50%	N 50%
40	Non–Essential 100%	Pf 100% Ct 100% Sl 100%	TV 100%
41	Non–Essential 100%	Pf 100% Ct 100% Sl 100%	TV 100%
42	Non–Essential 100%	Ct 100% Sl 50%	Cyp 50%
43	Essential 83%	Ct 100% Sl 100%	TV 100%
44	Essential 80%	Ct 100% Sl 100%	TV 100%
45	Non–Essential 100%	Pf 100% Ct 100% Co 100% Sl 100%	G 100% En 50% V 50%
49	Essential 60%	Ct 100% Sl 100% Pf 60%	G 60%
51	Essential 60%	Sl 100% Ct 80%	TV 80%
52	Essential 83%	Ct 100% Sl 100%	G 100%
53	Non–Essential 100%	Pf 100% Ct 100% Sl 100% M 50% Cf 50%	En 100%
54	Non–Essential 100%	Pf 100% Ct 100% Sl 100% Co 50%	V 100% Cyp 50%
55	Essential 100%	Ct 100% Sl 100%	Cyt 50%
57	Essential 100%	Cc 100% Sl 100%	N 100%
58	Essential 100%	Cc 100% Sl 67%	N 67%
60	Non–Essential 60%	Ct 100% Sl 100% Pf 80% Tf 80%	Mt 100%
62	Essential 100%	Pf 100% Ct 100% Sl 100% Tf 100%	Mt 100%
67	Non–Essential 100%	M 100% Ps 100% Sl 100%	Cyp 100% N 50%

68	Non–Essential 71%	Ct 100% Sl 100% Tsc 50%	N 100%
69	Essential 100%	Ct 100% Sl 100% Tsc 50%	N 100%
71	Unknown	Ct 100% Sl 100% Tsc 50%	N 75%
72	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
73	Essential 100%	Ps 100% Sl 100%	Cyp 100%
78	Non–Essential 100%	Pf 100% R 100% Cf 100% Co 100% Sl 100%	ER 100% N 100%
79	Essential 90%	Pf 100% Sl 100%	ER 100% N 100%
80	Essential 91%	Pf 100% Sl 100%	ER 100% N 100%
83	Non–Essential 100%	M 100% E 100% Sl 100%	Mt 100%
85	Essential 71%	Cc 86% Sl 86%	N 57%
86	Essential 100%	Cc 100% Tsc 100% Cf 100% Sl 100%	N 100%
87	Essential 100%	Cc 100% Tsc 100% Cf 100% Sl 100%	N 100%
88	Essential 100%	Cc 100% Sl 100%	N 100%
89	Essential 92%	Cc 100% Sl 100%	N 92%
90	Essential 100%	Cc 100% Sl 100%	N 100%
93	Essential 100%	Cc 100% Sl 100%	N 100%
94	Essential 100%	Cc 100% Sl 100%	N 100%
96	Essential 100%	Cc 100% Sl 100%	N 100%
97	Unknown	Cc 100% Sl 100%	N 50%
98	Non–Essential 100%	Cc 100% Co 100% Sl 100%	N 50%
99	Non–Essential 100%	E 100% Sl 100% M 67%	Mt 100%
100	Non–Essential 100%	E 100% Sl 100%	Mt 100%
101	Non–Essential 100%	E 100% Sl 100%	Mt 100%
102	Non–Essential 86%	E 100% Sl 100% Ct 86% R 86% Tf 86%	Mt 100%
103	Unknown	M 100% Cc 100% Sl 100%	Cyp 100%
104	Essential 100%	Tsc 100% Sl 100%	N 100%
105	Essential 100%	Tsc 100% Sl 100%	N 100%
106	Essential 100%	Tsc 100% Sl 100%	N 50%
107	Essential 100%	Tsc 100%	
108	Essential 100%	Sl 100% Tsc 80%	N 100%
109	Essential 100%	Tsc 100% Sl 100%	N 100%
110	Essential 100%	Sl 100% Tsc 86%	N 100%
111	Non–Essential 100%	Ps 100% Sl 100%	Mt 100%
113	Essential 79%	Tsc 97% Sl 90%	N 90%
114	Unknown	Tsc 100% Sl 100%	N 100%
116	Essential 70%	Tsc 92% Sl 83%	N 83%
117	Unknown	Tsc 100% Sl 71%	N 71%
118	Non–Essential 100%	Tsc 100% Sl 100%	Mt 100%
120	Essential 100%	M 100% Cc 100% Pf 100% Sl 67%	N 67%
121	Essential 67%	M 100% Cc 100% Pf 67%	
122	Essential 100%	M 100% Cc 100% Pf 100% Sl 67%	N 67%
123	Non–Essential 75%	M 75% E 50% Sl 50%	
124	Non–Essential 100%	M 75% Tsc 75% Sl 75% Cr 50%	N 50%
125	Non–Essential 100%	R 100% Cf 100%	
126	Non–Essential 100%	Cco 100% R 100% Cf 100% Sl 100%	Pm 100%
129	Essential 75%	Cc 88% Sl 88%	Cyt 100%

130	Essential 67%	Cc 100% Sl 100%	Cyp 100% Cyt 100% N 100%
131	Unknown	Sl 100% Cc 64%	Cyt 91%
133	Non–Essential 100%	Cc 100% Co 100% Sl 100%	N 100%
134	Non–Essential 100%	M 100% E 100% Sl 100% Cr 50%	Cyp 100% Mt 50%
136	Essential 100%	Tsc 100% Ps 100% Sl 100%	Cyp 100% N 100%
137	Essential 100%	Ps 100% Sl 100%	Cyp 100%
138	Essential 67%	Ps 100% Sl 100%	Cyp 100%
139	Essential 100%	Ps 100% Sl 100% Cc 50%	Cyp 100%
141	Non–Essential 100%	Ps 100% Sl 100%	Cyp 100%
142	Non–Essential 75%	Ps 100% Sl 100%	Cyp 100%
144	Non–Essential 84%	Ps 100% Sl 96%	Cyp 100%
145	Non–Essential 83%	Ps 100% Sl 100%	Cyp 100%
146	Non–Essential 100%	Ps 100% Sl 89%	Mt 89%
148	Non–Essential 100%	E 100% Ps 100% Sl 100%	Mt 100%
149	Non–Essential 100%	Ps 100% Sl 100%	Mt 100%
150	Non–Essential 88%	Ps 100% Sl 100%	Mt 100%
151	Essential 67%	Tsc 100% Sl 100%	N 100%
152	Essential 100%	Cc 100% Tsc 100% Sl 67%	N 67%
153	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
154	Essential 88%	Tsc 100% Sl 100%	N 100%
155	Essential 100%	Tsc 100% Sl 100%	N 100%
156	Essential 100%	Tsc 100% Sl 100%	N 100%
157	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
159	Non–Essential 100%	Cc 100% Sl 100%	N 100%
161	Essential 100%	Cc 100% Tsc 100% Sl 71%	N 71%
163	Non–Essential 100%	Cc 100% Sl 100% Cf 67%	N 100%
166	Non–Essential 100%	Cc 100% Sl 100%	N 100%
167	Non–Essential 100%	Cc 100% Sl 100%	N 100%
170	Non–Essential 100%	Tsc 100% Sl 100%	N 100%
171	Unknown	Tsc 100% Sl 80%	N 90%
172	Non–Essential 67%	Tsc 100% Sl 100%	N 100%
174	Non–Essential 75%	Tsc 100% Sl 75%	N 62%
175	Non–Essential 100%	M 100% Tsc 100% Sl 100%	N 100%
178	Non–Essential 100%	Tsc 100% M 67% Cf 67% Sl 67%	N 67%
179	Unknown	M 100% Tsc 100% Sl 100%	N 100%
180	Non–Essential 100%	M 100% Tsc 100% Sl 100%	N 100%
181	Unknown	M 100% Tsc 100% Sl 100%	N 100%
185	Essential 67%	Tsc 100% Sl 100%	N 100%
186	Non–Essential 80%	Sl 100% M 80% Tsc 80% Cf 80%	N 80%
189	Non–Essential 100%	M 100% Tsc 100%	
191	Essential 100%	Tsc 100% Sl 100%	N 100%
192	Essential 100%	Tsc 100% Sl 100%	N 100%
193	Essential 78%	Tsc 100% Sl 100%	N 100%
194	Unknown	Sl 100% Tsc 93%	N 93%
196	Essential 100%	Tsc 100% Sl 71%	N 86%

198	Non–Essential 100%	M 100% Cc 100% Tsc 100% Cf 100% Sl 100%	N 100%
199	Essential 100%	Pf 100% Ct 100% Sl 100% Tf 100%	ER 100%
200	Unknown	Pf 100% Ct 100% Sl 100% Tf 100%	ER 100%
201	Essential 71%	M 100% Pf 100% Sl 86%	ER 86%
202	Unknown	Pf 67% Sl 67%	ER 67%
203	Essential 100%	Pf 100% Sl 100%	Cyp 100%
205	Essential 71%	Cc 100% Pf 100% Sl 57%	N 71%
208	Non–Essential 100%	Cc 100% Pf 100% Sl 100%	N 100%

III(b). Predicted protein characteristics

It is common to associate the function of a protein with the known function of the complex in which it participates. Our results indicate, however, that for subunits of protein complexes identified by mass spectroscopic methods such association is not always meaningful. Indeed, the functional, phenotypic and localization based inhomogeneity of the halo proteins do not allow us to assign them a clear functional or localization based classification. Yet, the homogeneity of the core is quite remarkable, indicating that all core proteins should carry the functional and localization classification of the complex. We find that many complexes, for which we were able to assign an unambiguous functional or localization based classification, contain proteins with either unknown classification, or whose current classification does not agree with the classification of the other core proteins. For these core subunits we can offer rather reliable functional predictions. In the following table we list the proteins for which predictions regarding their classification is possible. In the first column we have the protein's name, and in the second the complex in which they appear, serving as the basis of our predictions. The confidence level of each prediction can be seen by looking up the specific complex in Table V. Next we show the known functional classification based on the MIPS database, followed by our prediction for the functional classification. The last two columns give the cellular localization from the MIPS database, followed by the predicted localization. Missing entries in the prediction columns imply that the confidence level of the prediction did not reach 50%.

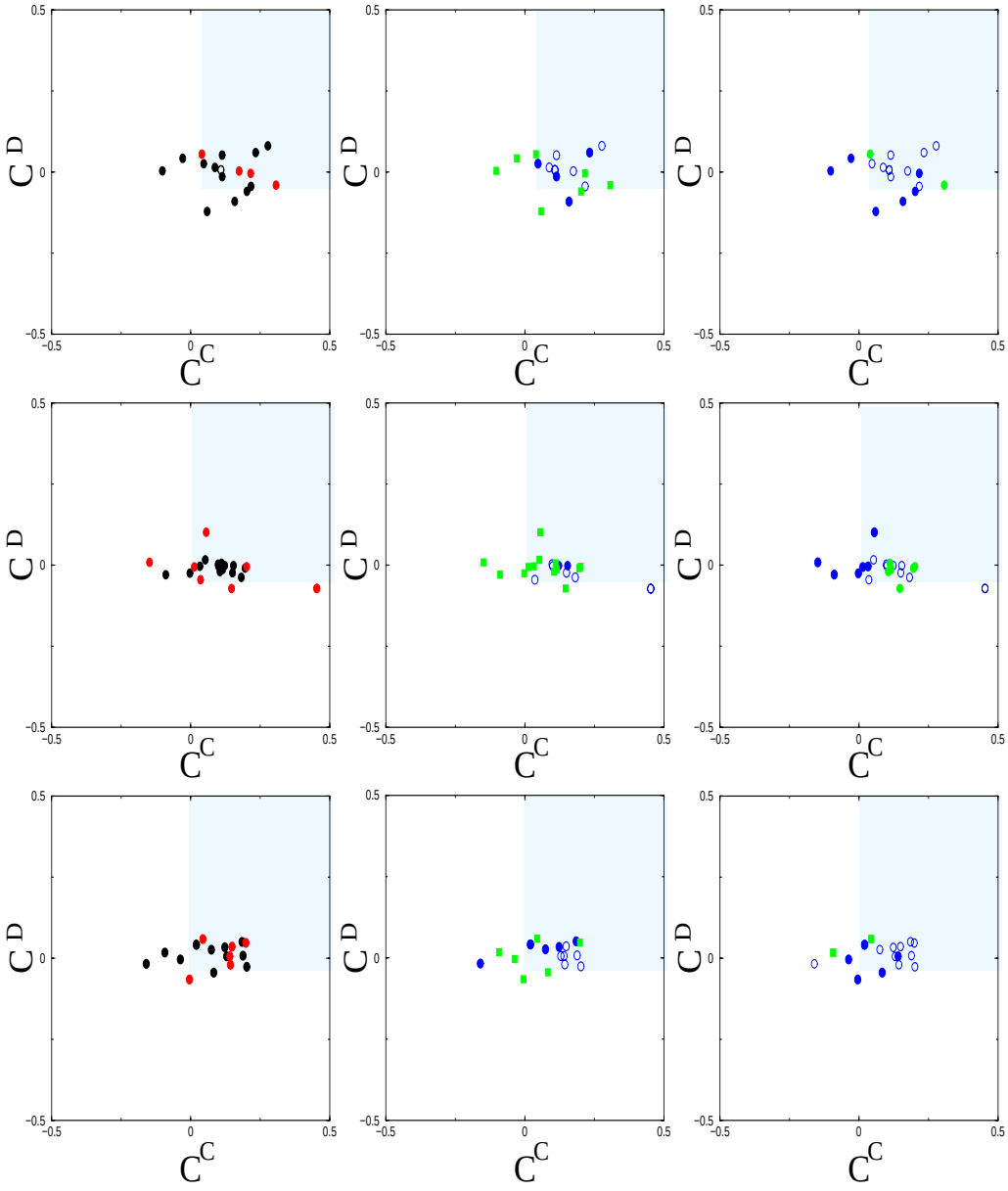
Table VI

Protein	Compl. Nr.	Func. from MIPS	Predicted Func.	Loc. from MIPS	Predicted Loc.	
YAL047C	129	Cc	Sl	Cyt		
YBR152W	113	Tsc Co			N	
YBR234C	13	Cf Sl			Cyt	
YDL048C	117	M Tsc			N	
YDR364C	113	Cc Sl	Tsc	N		
YDR478W	116	Tsc			N	
YGR056W	85	Cc Sl			N	
YGR092W	174	Cc Tsc			N	
YHR006W	117	Tsc			N	
YHR099W	171	Tsc			N	
YHR129C	131	Cc Ct Sl		Cyp	Cyt	
YHR179W	13	E	Sl	Cyp Cyt		
YIL106W	174	Cc Tsc			N	
YJR043C	89	Cc Sl			N	
YJR122W	174	Tsc Sl			N	
YKL078W	113	Tsc			N	
YLR127C	205	Cc Pf			N	
YLR175W	16	Cc Tsc Cf Co Sl		N	Cyt	
YLR357W	85	Cc Co	Sl		N	
YLR375W	117	M Tsc			N	
YMR064W	146	Tsc Ps			Mt	
YMR112C	194	Tsc Sl			N	
YNL223W	16	Pf Ct Sl		Cyp	Cyt	
YOL102C	117	Tsc			N	
YOR148C	113	Tsc			N	
YOR249C	205	Cc Pf			N	
YPL011C	196	Tsc			N	
YPL124W	129	Ct Sl	Cc	Cyt		
YPR034W	186	Sl	Cc		N	

Negative control sets

a.Control set to Fig 1.

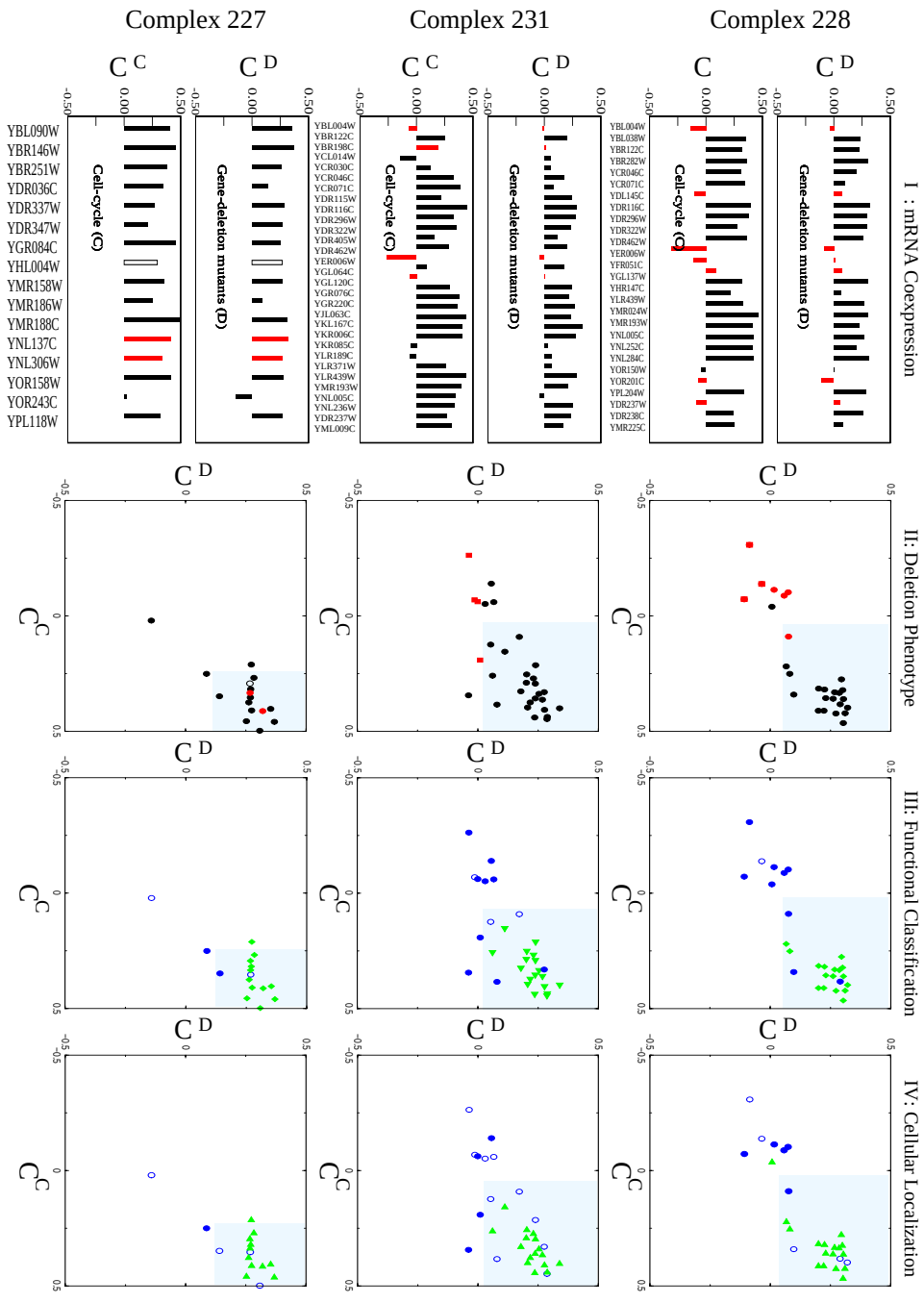
We reproduced Fig 1. keeping the number of proteins unchanged for each of the three complexes, but choosing the proteins randomly from all yeast proteins. *Column I:* Cross correlation plot obtained by plotting for each protein i within three complexes containing randomly selected proteins the cell-cycle correlation coefficient C_i^C on the horizontal axis, and the gene deletion correlation coefficient C_i^D on the vertical axis. Each symbol corresponds to a single gene product (protein), the color reflecting its known deletion phenotype (red: essential; black: non-essential). The shaded area separates the highly coexpressed core proteins, the boundaries of the area being given by $C_i^C = \overline{C}^C - \sigma^D$ and $C_i^D = \overline{C}^D - \sigma^D$. *Column II*: The same coexpression plot as in Column I, but the symbols are color-coded based on the functional classification of the corresponding proteins. The green symbols denote gene products that belong to the majority regarding their known functional role which is subcellular localization for all three complexes; unfilled symbols denote proteins with unknown functional role; and the blue symbols denote those subunits that do not share the functional classification with the majority. *Column III*: Coexpression plot with proteins colored based on their known cellular localization. Green symbols denote those with the same subcellular localization, which is nucleus for all three complexes. Blue symbols denote proteins whose localization differs from the majority and unfilled symbols represent those with unknown cellular localization. Compared to Fig.1, the correlation coefficients for these random complexes are significantly smaller and both "core" and the "halo" are inhomogeneous.


0.5
0
−0.5
C D
C C

b.Reproducing the halo-core separation using a single cell cycle dataset

These figures are the same as Fig 1. and Fig 2., the only difference being that we used the cell cycle experiment data of Cho et al. on the horizontal axis, aiming to to test if the results depend on the particular expression dataset used by us. Comparing the new figures with the original ones we see only small deviation from the original plots. The functionality and the localization of the majority core proteins remains unchanged.

I: mRNA Coexpression
II: Deletion Phenotype
III: Functional Classification
IV: Cellular Localization
Complex 365
Complex 360
Complex 363
Gene-deletion mutants (D)
Cell-cycle (C)
C
D
YBR154C
YDL150W
YDR005C
YDR045C
YFR037C
YJL011C
YKL060C
YKL144C
YKR025W
YNL113W
YNL151C
YOR116C
YOR207C
YOR224C
YPR110C
YPR187W
YPR190C
YDL007W
YDL097C
YDL147W
YDR394W
YDR427W
YER021W
YER052W
YFR004W
YGL048C
YGL049C
YHL030W
YHR200W
YJL001W
YMR314W
YOR117W
YOR259C
YOR361C
YPR103W
YPR108W


Complex 228
Complex 231
Complex 227
I : mRNA Coexpression
II: Deletion Phenotype
III: Functional Classification
IV: Cellular Localization
Gene-deletion mutants (D)
Cell-cycle (C)
C C
C D