ASCB Member Survey on Reproducibility
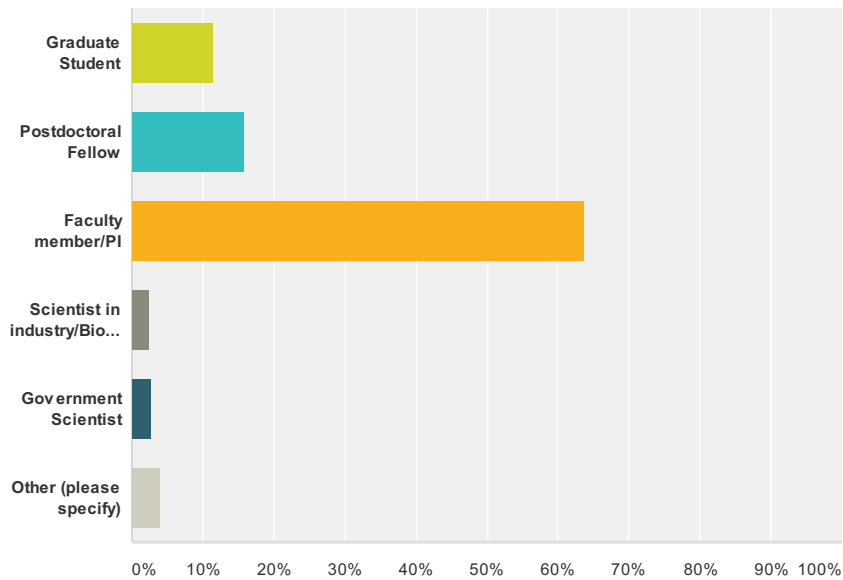
Q1 What best describes your position? (Choose one):

Answered: 869   Skipped: 3

Answer Choices	Responses	
Graduate Student	**11.51%**	100
Postdoctoral Fellow	**15.77%**	137
Faculty member/PI	**63.64%**	553
Scientist in industry/Biotechnology	**2.53%**	22
Government Scientist	**2.65%**	23
Other (please specify)	**3.91%**	34
Total		**869**

#	Other (please specify)	Date
1	Professor emeritus	7/29/2014 2:52 PM
2	Retired government scientist	7/29/2014 2:20 PM
3	Retired Government Scientist	7/13/2014 4:14 AM
4	research scientist	7/5/2014 3:52 PM
5	Postdoctoral associate	7/2/2014 5:12 PM
6	Unemployed pharmaceutical scientist	7/1/2014 9:34 PM
7	research faculty	7/1/2014 6:37 PM
8	Research Technician at University	7/1/2014 3:22 PM
9	Academic research scientist/lab manager	7/1/2014 10:33 AM
10	Sr. Research Fellow	7/1/2014 8:26 AM
11	staff scientist	7/1/2014 4:12 AM
12	Facility Manager Microscopy	7/1/2014 2:30 AM
13	research scientist (beyond postdoc, academic)	6/30/2014 8:49 PM
14	scientist in research institute	6/30/2014 6:54 PM
15	research staff scientist	6/30/2014 5:46 PM
16	Professor emeritus	6/30/2014 5:30 PM
17	Scientist in non-profit organization	6/30/2014 4:53 PM
18	retired research faculty	6/30/2014 4:40 PM
19	Government Fellow	6/30/2014 4:39 PM
20	staff scientist	6/30/2014 4:36 PM

21	Science writer; former academic scientist (therefore, answers below are from most recent lab position)	6/30/2014 4:30 PM
22	research associate	6/30/2014 4:04 PM
23	research scientist in education/government	6/30/2014 3:59 PM
24	research scientist	6/30/2014 3:57 PM
25	Facility Manager	6/30/2014 3:55 PM
26	research scientist	6/30/2014 3:44 PM
27	Director, Microscopy Center	6/30/2014 3:32 PM
28	research scientist at university medical school	6/30/2014 3:31 PM
29	Clinical Research Scientist	6/30/2014 3:31 PM
30	Lab Manager	6/30/2014 3:29 PM
31	Professor at PUI	6/30/2014 3:26 PM
32	Assoc. Vice President for Research @ university	6/30/2014 3:23 PM
33	Research Associate	6/30/2014 3:19 PM
34	Technician at Universtiy	6/30/2014 3:13 PM

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Q2 Which model systems do you use?
### (Choose all the apply):

Answered: 868   Skipped: 4
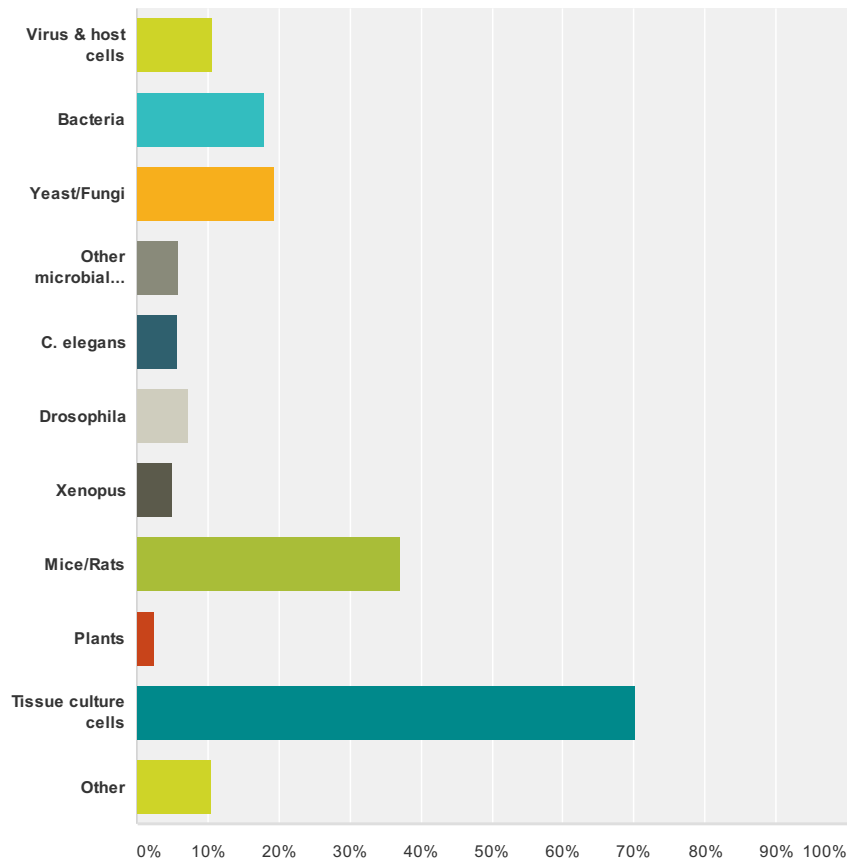
Answer Choices	Responses	
Virus & host cells	**10.71%**	93
Bacteria	**17.86%**	155
Yeast/Fungi	**19.47%**	169
Other microbial eukaryotes	**5.88%**	51
C. elegans	**5.65%**	49
Drosophila	**7.26%**	63
Xenopus	**5.07%**	44
Mice/Rats	**37.10%**	322
Plants	**2.42%**	21
Tissue culture cells	**70.16%**	609
Other	**10.48%**	91
Total Respondents: 868		

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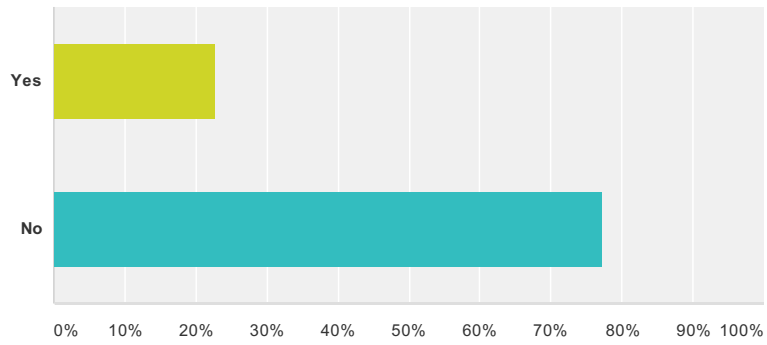## Q3 Have you ever been unable to replicate a published experimental result?
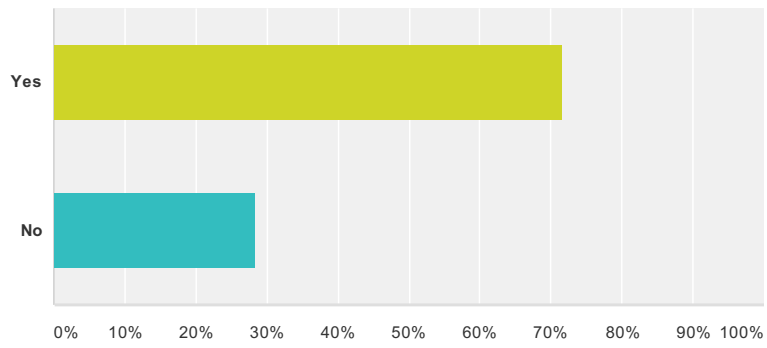
Answer Choices	Responses	
Yes	**71.54%**	621
No	**28.46%**	247
Total		**868**

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Q4 Has another laboratory ever told you that they have had trouble replicating one of your published experimental results?
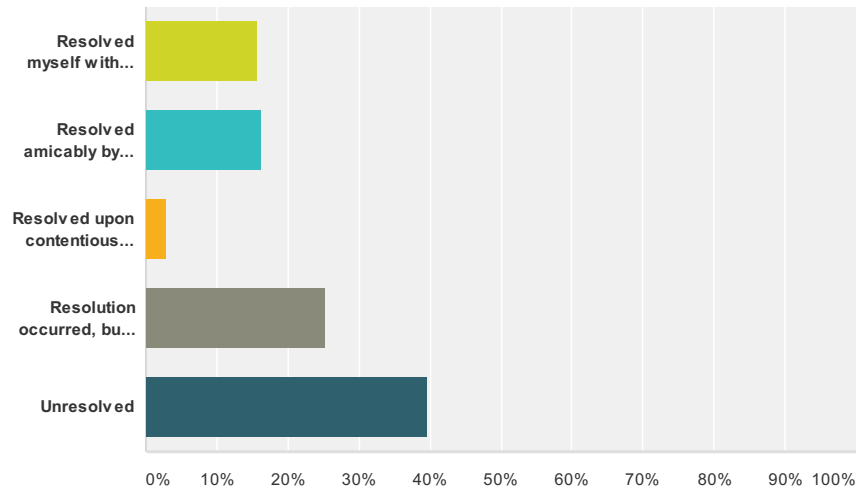
Answered: 868   Skipped: 4

Answer Choices	Responses	
Yes	**22.81%**	198
No	**77.19%**	670
Total		**868**

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Q5 Thinking of the instance that led to you answer "yes" above, how was the issue resolved?

Answered: 597   Skipped: 275

Answer Choices	Responses	
Resolved myself with additional trials	**15.75%**	94
Resolved amicably by consulting with the other lab	**16.25%**	97
Resolved upon contentious consultation with the other lab	**3.02%**	18
Resolution occurred, but not via reproduction. A better technology or different approach was used to resolve the issue.	**25.29%**	151
Unresolved	**39.70%**	237
Total		597

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## Q6 If unresolved, why not?
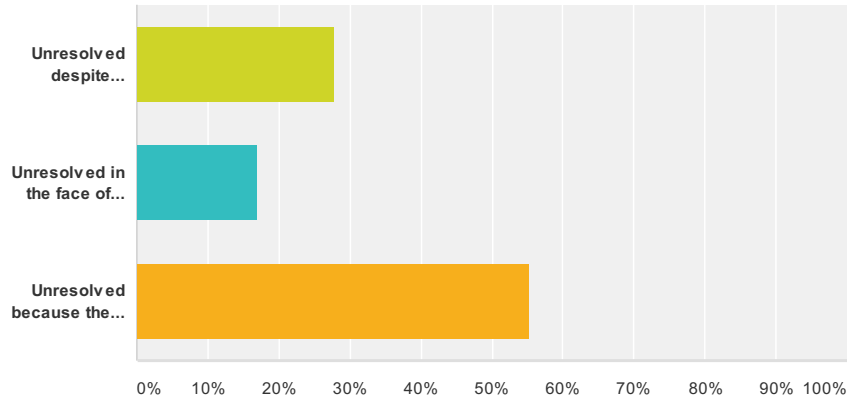
Answer Choices	Responses	
Unresolved despite amicable consultation with the other lab	**27.82%**	79
Unresolved in the face of contentious consultation with the other lab	**16.90%**	48
Unresolved because the issue was deemed not important enough to pursue	**55.28%**	157
Total		**284**

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Q7 If the discrepancy is resolved, what were the key issues in resolving the issue? (Choose all the apply)

Answered: 417   Skipped: 455
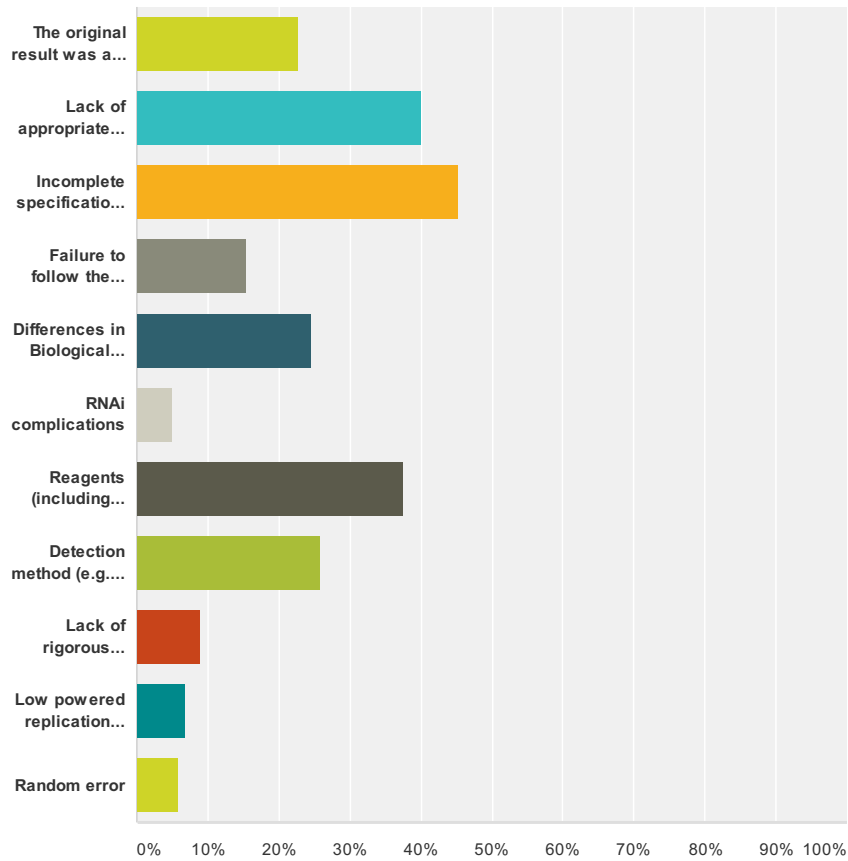
Answer Choices	Responses	
The original result was a false positive	**22.78%**	95
Lack of appropriate expertise or rigor	**40.05%**	167
Incomplete specification of original protocol could not accurately guide the replication attempt	**45.32%**	189
Failure to follow the original protocol	**15.35%**	64
Differences in Biological strains/Genetic background	**24.70%**	103
RNAi complications	**5.04%**	21
Reagents (including antibodies, sera, plasmids, etc.)	**37.65%**	157
Detection method (e.g. sensitivity of different instruments, cameras or assays)	**25.90%**	108
Lack of rigorous statistical analysis	**8.87%**	37
Low powered replication methods	**6.95%**	29
Random error	**5.76%**	24
Total Respondents: 417		

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Q8 If the discrepancy is resolved, how much time and effort did it take to resolve the issue.

Answered: 416   Skipped: 456
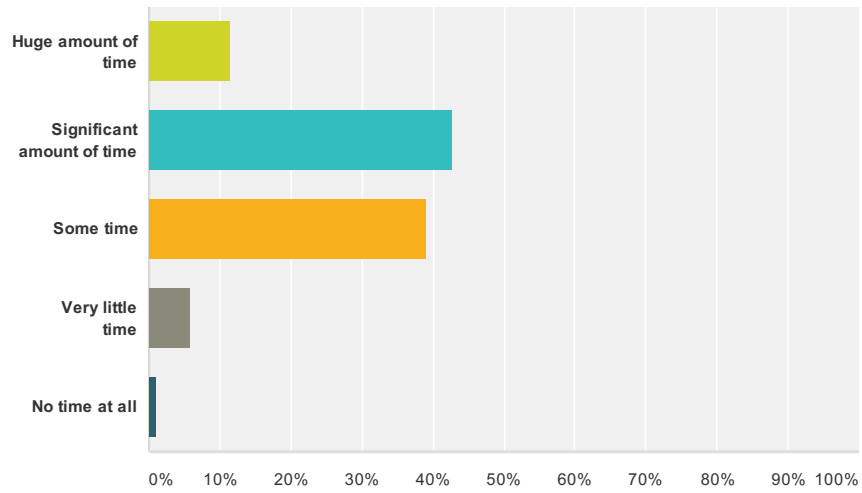
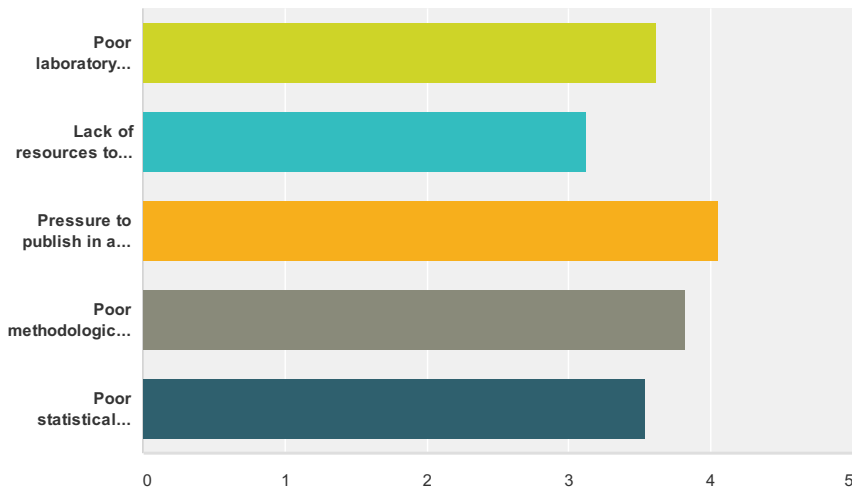| Answer Choices	Responses	
Huge amount of time	**11.54%**	48
Significant amount of time	**42.79%**	178
Some time	**38.94%**	162
Very little time	**5.77%**	24
No time at all	**0.96%**	4
Total		**416**

Q9 What factors do you believe contribute to poor reproducibility?

Answered: 866   Skipped: 6

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total	Average Rating
Poor laboratory record keeping	2.51% 21	11.12% 93	23.44% 196	48.21% 403	14.71% 123	836	3.61
Lack of resources to appropriately executive the experiments	6.91% 57	22.18% 183	31.76% 262	30.06% 248	9.09% 75	825	3.12
Pressure to publish in a high profile journal	2.36% 20	6.37% 54	14.50% 123	37.50% 318	39.27% 333	848	4.05
Poor methodological training	1.53% 13	7.78% 66	19.34% 164	50.12% 425	21.23% 180	848	3.82
Poor statistical knowledge	3.85% 32	13.12% 109	25.15% 209	40.91% 340	16.97% 141	831	3.54

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Q10 Based on your knowledge of failures to replicate published results, rate the extent to which each of the following plays a role in the failure to replicate:

Answered: 846   Skipped: 26
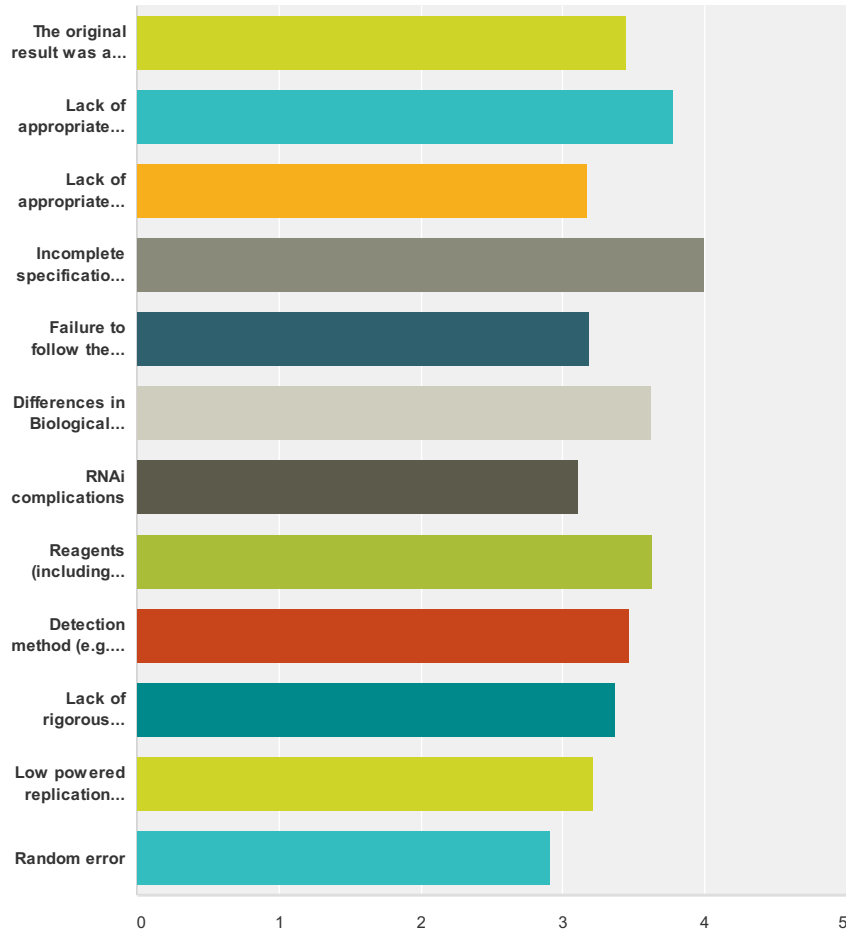
	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total	Average Rating
The original result was a false positive	3.29% 27	11.69% 96	33.62% 276	40.80% 335	10.60% 87	821	3.44
Lack of appropriate expertise or rigor among the team making the original observation	1.20% 10	6.82% 57	22.73% 190	50.84% 425	18.42% 154	836	3.78
Lack of appropriate expertise or rigor among the replication team	5.12% 42	18.66% 153	34.88% 286	36.59% 300	4.76% 39	820	3.17
Incomplete specification of original protocol could not accurately guide the replication attempt	1.33% 11	5.69% 47	16.71% 138	43.83% 362	32.45% 268	826	4.00
Failure to follow the original protocol	4.91% 40	20.02% 163	33.17% 270	35.87% 292	6.02% 49	814	3.18
Differences in Biological strains/Genetic background	3.30% 27	8.45% 69	26.93% 220	45.41% 371	15.91% 130	817	3.62
RNAi complications	4.33% 34	11.34% 89	58.09% 456	21.02% 165	5.22% 41	785	3.11
Reagents (including antibodies, sera, plasmids, etc.)	3.19% 26	8.70% 71	23.41% 191	51.23% 418	13.48% 110	816	3.63
Detection method (e.g. sensitivity of different instruments, cameras or assays)	3.07% 25	11.17% 91	30.92% 252	45.77% 373	9.08% 74	815	3.47
Lack of rigorous statistical analysis	3.71% 30	13.47% 109	34.61% 280	38.07% 308	10.14% 82	809	3.37
Low powered replication methods	4.03% 	14.61% 	42.70% 	33.38% 	5.29% 		

Low powered replication methods	4.03% 32	14.61% 116		42.70% 339	33.38% 265	5.29% 42	794	3.21
Random error	7.95% 63	20.20% 160		46.59% 369	22.98% 182	2.27% 18	792	2.91