Supplemental Table 1. List of cysteines in the control protein set used to test the electrostatic cysteine parameters.

PDB ID	Protein Name	Calculated pK_a	Residue
1BOR	replication protein a	2.27	Cys43
1DFE	ribosomal protein l36	4.175	Cys14
1FRE	nuclear factor xnf7	4.233	Cys28
1FRE	nuclear factor xnf7	4.512	Cys6
1CHC	c3hc4 domain	4.901	Cys43
1PTQ	protein kinase c delta cys2 domain	4.932	Cys261
1PTQ	protein kinase c delta cys2 domain	4.954	Cys272
1PTQ	protein kinase c delta cys2 domain	5.077	Cys244
1IBY	red copper protein nitrosocyanin	5.082	Cys95
1PLC	poplar plastocyanin	5.526	Cys84
1HFI	factor h	5.774	Cys5
1CC8	atx1 metallochaperone protein	6.087	Cys18
1PTQ	protein kinase c delta cys2 domain	6.132	Cys247
1UTG	uteroglobin	6.434	Cys3
1HDP	human b-cell transcription factor oct-2	6.478	Cys50
1VFY	phosphatidylinositol-3-phosphate binding fyve domain of vps27p protein	6.488	Cys192
1D3B	d3b subcomplex of the human core snrnp domain	6.554	Cys66
1F9F	regulatory protein e2	6.568	Cys301
1FS1	cyclin a/cdk2-associated p19	6.595	Cys136
1FS1	cyclin a/cdk2-associated p45	6.595	Cys136
1VFY	phosphatidylinositol-3-phosphate binding fyve domain of vps27p protein	6.607	Cys179
1E9K	camp-specific phosphodiesterase, pde4d5	6.628	Cys9
1BOR	replication protein a	6.647	Cys18
1BOR	replication protein a	6.661	Cys12
1EOQ	gag polyprotein capsid protein p27	6.816	Cys192
2FDN	ferredoxin	6.823	Cys8
1IRS	vav proto-oncogene	6.863	Cys214
1B0Y	mutant h42q high-potential iron protein	6.926	Cys77
1JFI	nc2-tbp-dna ternary complex	6.927	Cys54
1PTQ	protein kinase c delta cys2 domain	6.928	Cys280
1CNO	cytochrome c552	6.944	Cys14
1DFE	ribosomal protein l36	7.023	Cys11
1VPC	vpr protein	7.083	Cys76
1QGW	cryptophytan phycoerythrin (alpha-1 chain)	7.098	Cys19

1QGW	cryptophytan phycoerythrin (alpha-2 chain)	7.098	Cys19
1BH9	tafii18	7.159	Cys38
1CC8	atx1 metallochaperone protein	7.166	Cys15
1BH8	tafii 28	7.18	Cys38
1CHC	c3hc4 domain	7.203	Cys46
2FDN	ferredoxin	7.257	Cys37
1HZE	riboflavin synthase	7.271	Cys48
1J75	tumor stroma and activated macrophage protein dlm-1	7.283	Cys138
1NOB	fiber knob protein	7.312	Cys433
1TIT	titin, i27	7.327	Cys47
2FDN	ferredoxin	7.34	Cys18
1C75	pf3 single-stranded dna binding protein	7.426	Cys35
1IRS	vav proto-oncogene	7.429	Cys186
1FS1	cyclin a/cdk2-associated p19	7.435	Cys125
1FS1	c cyclin a/cdk2-associated p45	7.435	Cys125
2FDN	ferredoxin	7.457	Cys47
1NOB	fiber knob protein	7.485	Cys579
1DXG	desulforedoxin	7.496	Cys28
1DI2	double stranded rna binding protein a	7.529	Cys149
1VFY	phosphatidylinositol-3-phosphate binding (fyve domain of protein vps27)	7.542	Cys200
1CNO	cytochrome c552	7.561	Cys17
1VIE	dihydrofolate reductase	7.582	Cys47
1K5J	nucleoplasmin core	7.67	Cys51
2FDN	ferredoxin	7.675	Cys40
1D2Z	ferredoxin	7.707	Cys46
2FDN	ferredoxin bottom of form	7.707	Cys11
1UTG	uteroglobin	7.759	Cys69
1B0Y	mutant h42q high-potential iron protein	7.777	Cys63
1HZE	riboflavin synthase alpha chain	7.786	Cys47
1GVP	gene v protein	7.842	Cys33
1PFS	pf3 single-stranded dna binding protein	7.859	Cys40
1FRE	nuclear factor xnf7	7.901	Cys17
1BOR	replication protein a	7.921	Cys24
1GD0	macrophage migration inhibitory factor	7.924	Cys80
2SXL	sex-lethal protein	7.931	Cys33
1AVO	11s regulator	7.974	Cys22
1ISU	high potential iron sulfur protein	7.999	Cys55
1BL1	parathyroid hormone receptor	8	Cys31
1ISU	high potential iron sulfur protein	8.05	Cys25
1H6W	bacteriophage t4 short tail fibre	8.108	Cys362

1DXG	desulforedoxin	8.117	Cys12
1CHC	c3hc4 domain	8.219	Cys11
1GMM	cbm6	8.19	Cys100
1FS1	cyclin a/cdk2-associated p45	8.152	Cys123
1FS1	cyclin a/cdk2-associated p19	8.152	Cys123
1C75	cytochrome c-553	8.267	Cys32
1KWA	hcask/lin-2 protein pdz domain	8.235	Cys513
1COO	rna polymerase alpha subunit	8.239	Cys269
1GD0	macrophage migration inhibitory factor	8.283	Cys56
1EWI	replication protein a	8.287	Cys77
1CHC	c3hc4 domain	8.343	Cys32
1YCQ	mdm2	8.356	Cys73
1RB9	rubredoxin	8.387	Cys9
1CHC	c3hc4 domain	8.549	Cys8
1GCQ	growth factor receptor-bound protein 2	8.409	Cys198
1H6W	bacteriophage t4 short tail fibre	8.509	Cys372
1ISU	high potential iron sulfur	8.651	Cys22
1K5J	nucleoplasmin core	8.671	Cys21
2AF8	actinorhodin polyketide synthase acyl carrier protein	8.678	Cys17
1JFI	transcription regulator nc2 alpha chain	8.693	Cys73
1DXG	desulforedoxin	8.721	Cys29
1BDO	acetyl-coa carboxylase	8.713	Cys116
1A1Z	fadd; death domain	8.725	Cys27
1EWI	replication protein a	8.734	Cys75
1LFB	liver transcription factor (lfb1)	8.736	Cys51
1VFY	phosphatidylinositol-3-phosphate binding fyve domain of vps27p protein	8.74	Cys195
1GD0	macrophage migration inhibitory factor	8.786	Cys59
2AVI	avidin	8.83	Cys83
1JYA	yope regulator	8.852	Cys36
1HFI	factor h	8.879	Cys36
1RB9	rubredoxin	8.907	Cys42
1EMV	immunity protein im9	9.024	Cys23
1EMV	immunity protein im9	9.024	Cys23
1B0Y	mutant h42q high-potential iron protein	9.135	Cys43
1LFB	liver transcription factor (lfb1)	9.139	Cys46
1DFE	l36 ribosomal protein	9.207	Cys27
1PTQ	protein kinase c delta type	9.151	Cys264
1ISU	high potential iron sulfur protein	9.212	Cys40
1RB9	rubredoxin	9.323	Cys39
1TIT	titin, i27	9.328	Cys63
1B0Y	mutant h42q high-potential iron protein	9.342	Cys46
1BOR	replication protein a	9.439	Cys29
1BOR	replication protein a	9.474	Cys32
1D3B	small nuclear ribonucleoprotein sm d3	9.548	Cys20
1VFY	phosphatidylinositol-3-phosphate binding (fyve domain of protein vps27)	9.552	Cys176
1ABV	delta subunit of the f1f0-atp synthase	9.595	Cys64

1FRE	nuclear factor xnf7	9.928	Cys25
1CHC	c3hc4 domain	10.145	Cys29
1VFY	phosphatidylinositol-3-phosphate binding (fyve domain of protein vps27)	10.189	Cys222
1BOR	replication protein a	10.525	Cys40
2FDN	ferredoxin	10.627	Cys43
1D3B	small nuclear ribonucleoprotein sm d3	10.811	Cys41
1CHC	c3hc4 domain	11.08	Cys24
2FDN	ferredoxin	11.21	Cys14
1VFY	phosphatidylinositol-3-phosphate binding (fyve domain of protein vps27)	12.158	Cys225
1BOR	replication protein a	12.171	Cys9
2AVI	avidin	12.23	Cys4
1DXG	desulforedoxin	13.162	Cys9
1RB9	rubredoxin	13.59	Cys6
1HDP	oct-2 pou homeodomain	14.702	Cys62
1HFI	factor h	18.029	Cys50