

Supplementary Table 1 | RSC subunit modelling.

Subunit / Chain ID	Domain	Residue range	PDB entry of homology model / Modelling algorithm	Changes to homology model
H2A / C + G	Histone	15-116	5Z3U, without chain O	UCSF Chimera, Namdinator, PHENIX real space refinement H4 (B) 15-22 stubbed Removed residues (see residue range)
H2B / D + H	Histone	30-121		
H3 / A + E	Histone	39-134		
H4 / B + F	Histone	40-134		
DNA / I	Nucl. DNA	15-101		
DNA / J	Nucl. DNA	21-102		
DNA / I	Upstream DNA	2-124		
DNA / J	Upstream DNA	24-146	B-DNA / 3D-DART	UCSF Chimera, PHENIX geometry minimization
DNA / I	Upstream DNA	-35-1		
DNA / J	Upstream DNA	125-183		
Sfh1 / K	N-term.	1-150	not modelled	UCSF Chimera, COOT, density + model guided building UCSF Chimera, COOT, density + model guided building
Sfh1 / K		151-186	COOT, density guided <i>de novo</i> modelling	
Sfh1 / K		187-198	not modelled	
Sfh1 / K		198-201	COOT, density guided <i>de novo</i> modelling	
Sfh1 / K	RPT1	202-267	6ax5 / SWISS	
Sfh1 / K		268-274	COOT, density guided <i>de novo</i> modelling	
Sfh1 / K	RPT2	275-341	6ax5 / SWISS	
Sfh1 / K		342-346	COOT, density guided <i>de novo</i> modelling	
Sfh1 / K	Poly-alanine	347-360	COOT, density guided <i>de novo</i> modelling	
Sfh1 / K		361-372	not modelled	
Sfh1 / K	Docking helix	373-408	COOT, density guided <i>de novo</i> modelling	
Sfh1 / K	C-term.	408-426	not modelled	
Rsc8 / L	N-term.	1-58	not modelled	UCSF Chimera, COOT, density + model guided building
Rsc8 / L		59-86	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	SWIRM	87-169	2FQ3 / SWISS	
Rsc8 / L		170-197	COOT, density guided <i>de novo</i> modelling	

Rsc8 / L		198-256	not modelled	
Rsc8 / L	Zn finger	257-307	1TOT / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc8 / L		308-314	not modelled	
Rsc8 / L	SANT	315-359	2YUS / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc8 / L		360-368	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L		369-385	not modelled	
Rsc8 / L	Long helix	386-401	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	Long helix	402-404	not modelled	
Rsc8 / L	Long helix	405-492	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	C-term.	493-557	not modelled	
Rsc8 / L	N-term.	1001-1081	not modelled	
Rsc8 / L		1082-1086	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	SWIRM	1087-1169	2FQ3 / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc8 / L		1170-1202	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	Zn finger	1203-1310	not modelled	
Rsc8 / L		1311-1314	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	SANT	1315-1359	2YUS / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc8 / L		1360-1370	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L		1371-1421	not modelled	
Rsc8 / L	Long helix	1422-1488	COOT, density guided <i>de novo</i> modelling	
Rsc8 / L	C-term.	1489-1557	not modelled	
Npl6 / M	N-term.	1-322	not modelled	
Npl6 / M		323-376	COOT, density guided <i>de novo</i> modelling	
Npl6 / M		377-380	not modelled	
Npl6 / M		381-434	COOT, density guided <i>de novo</i> modelling	
Npl6 / M	C-term.	435	not modelled	
Rsc9 / N	N-term.	1-55	not modelled	

Rsc9 / N		56-80	COOT, density guided <i>de novo</i> modelling	
Rsc9 / N	Armadillo	81-161	COOT, density guided <i>de novo</i> modelling	
Rsc9 / N	Armadillo	160-319	4V3Q / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc9 / N	Armadillo	320-346	COOT, density guided <i>de novo</i> modelling	
Rsc9 / N		347-359	COOT, density guided <i>de novo</i> modelling	
Rsc9 / N	Zn finger	360-516	not modelled	
Rsc9 / N		517-524	COOT, density guided <i>de novo</i> modelling	
Rsc9 / N	Armadillo	525-578	COOT, density guided <i>de novo</i> modelling	
Rsc9 / N	C-term.	579-581	not modelled	
Rsc6 / O	N-term.	1-5	not modelled	
Rsc6 / O		6-61	COOT, density guided <i>de novo</i> modelling	
Rsc6 / O		62-227	not modelled	
Rsc6 / O	SWIB	228-269	1UHR / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc6 / O		270-312	not modelled	
Rsc6 / O	SWIB	313-343	1UHR / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc6 / O		344-391	not modelled	
Rsc6 / O		392-462	COOT, density guided <i>de novo</i> modelling	
Rsc6 / O		463-468	not modelled	
Rsc6 / O		469-480	COOT, density guided <i>de novo</i> modelling	
Rsc6 / O	C-term.	481-483	not modelled	
Rsc58 / P	N-term.	1-9	not modelled	
Rsc58 / P	Bromo	10-36	COOT, density guided <i>de novo</i> modelling	
Rsc58 / P	Bromo	37-71	not modelled	
Rsc58 / P	Bromo	72-121	3LJW / SWISS	UCSF Chimera, COOT, density + model guided building
Rsc58 / P	Bromo	122-139	COOT, density guided <i>de novo</i> modelling	
Rsc58 / P		140-168	not modelled	
Rsc58 / P		169-316	COOT, density guided <i>de novo</i> modelling	

Rsc58 / P		317-387	not modelled	
Rsc58 / P		388-491	COOT, density guided <i>de novo</i> modelling	
Rsc58 / P	C-term.	492-502	not modelled	
Htl1 / Q	N-term.	1-16	not modelled	
Htl1 / Q		17-74	COOT, density guided <i>de novo</i> modelling	
Htl1 / Q	C-term.	75-78	not modelled	
Rsc4 / R	N-term. / Tandem bromo	1-443	not modelled	
Rsc4 / R	Sheet bundle 1	444-536	COOT, density guided <i>de novo</i> modelling	
Rsc4 / R		537-587	not modelled	
Rsc4 / R	Sheet bundle 2	588-625	COOT, density guided <i>de novo</i> modelling	
Sth1 / S	N-term.	1-47	not modelled	
Sth1 / S		48-134	COOT, density guided <i>de novo</i> modelling	
Sth1 / S		135-156	not modelled	
Sth1 / S		157-297	COOT, density guided <i>de novo</i> modelling	
Sth1 / S		298-321	not modelled	UCSF Chimera, rigid-body docking together with ARP module
Sth1 / S	HSA	322-369	4I6M:C / Used as deposited	Removed residues (see residue range) Amino acid residues mutated to Sth1-HSA (see Methods) Side chains stubbed
Sth1 / S		370-392	not modelled	
		modelled: 393-407 447-662, 677-734, 754-940,		UCSF Chimera, PHENIX real space refinement
Sth1 / S	ATPase	976-1006	5Z3U:O / Rosetta	Side chains stubbed
		not modelled: 408-446, 663-676, 735-753, 941-975		Removed residues (see residue range)

Sth1 / S	Bromo, C-term.	1007-1359	not modelled	
Arp7 / T				
Arp9 / U	ARP module	Same as in PDB entry	4I6M	UCSF Chimera, rigid-body docking
Rtt102 / V				
Chain X	poly-alanine		COOT, density guided <i>de novo</i> modelling	