

Supplementary Table 2

rRNA	Position	Natchiar <i>et al.</i> <sup>25</sup>	Taoka <i>et al.</i> <sup>21</sup> (MS)	This study	CH...O interaction acceptor	Hydrophobic interaction	H-bond partner
28S	237	xp6G					
28S	373	Gm					
28S	398	Am	Am	Am	Water / Protein carbonyl		
28S	400		Am	Am		LEU side chain	
28S	729	m2G					
28S	978	m2G					
28S	1316	Gm	Gm	Gm	PO4 / Water		Ribose C5'
28S	1322	m1A	m1A	m1A	PO4		
28S	1323		Am				
28S	1326	Am	Am	Am	Water / Ribose O4'		
28S	1340		Cm	Cm	Ribose O4'	TRP / LYS side chains	
28S	1348	xp4U					
28S	1456	m3C					
28S	1517	m2G					
28S	1522	Gm	Gm	Gm	Ribose O4'		Ribose C5'
28S	1524	Am	Am	Am	Ribose O4' / PO4 / Water		
28S	1534	Am	Am	Am	Ribose O4'		Base C6
28S	1536		ψ	ψ			Water
28S	1574	xp6G					
28S	1582	ψ	ψ	ψ			Base O2
28S	1605	m7G					
28S	1625	Gm	Gm	Gm	PO4 / TYR side chain	TYR side chain	
28S	1659	xp4U					
28S	1677	ψ	ψ	ψ			PO4
28S	1683	ψ	ψ	ψ			Water
28S	1744		ψ	ψ			Water

Supplementary Table 2

28S	1760		Gm	ND			
28S	1773		Um	ND			
28S	1779		ψ	ND			
28S	1781		ψ	ψ			Water
28S	1782		ψ	ψ			Water
28S	1792		ψ	ψ			Water
28S	1797	xe7G					
28S	1860	m1ψ	ψ	ψ			Water
28S	1862		ψ	ψ			Water
28S	1866	m3U					
28S	1871	Am	Am	Am	Water		
28S	1881		Cm				
28S	1883	Gm					
28S	1909	xp7G					
28S	2050	Gm					
28S	2297	xe7G					
28S	2351		Cm	Cm			MET side chain
28S	2363	Am	Am	Am	Water		
28S	2364	Gm	Gm	Gm	Ribose O4'		
28S	2365	Cm	Cm	Cm	Water / Ribose O4'		Base C6
28S	2380	m6G					
28S	2401	Am	Am	Am	Water / Protein carbonyl		
28S	2415		Um	Um	ND	ND	
28S	2422	Cm	Cm	Cm	Water		
28S	2424	Gm	Gm	Gm	Ribose O4'		Ribose C1'
28S	2508	ψ	ψ	ψ			PO4
28S	2522	m7G					
28S	2754	xp6G					
28S	2632		ψ	ψ			Water

Supplementary Table 2

28S	2773	Gm					
28S	2786	xp3Cm					
28S	2787		Am	Am	PO4	Ribose C3'	
28S	2804	Cm	Cm	Cm	Ribose O4' / TYR side chain	TYR side chain	
28S	2815		Am	Am	PO4		
28S	2824		Cm	Cm	Water		
28S	2837		Um	Um	Water / Protein carbonyl		
28S	2835		ψ	A			
28S	2839		ψ	ψ			Water
28S	2861	Cm	Cm	Cm	Ribose O2'	Base C5	
28S	2876		Gm	Gm	Water / PO4		
28S	3627		Gm	Gm	Water / PO4		
28S	3637		ψ	ψ			Water
28S	3639		ψ	ψ			Water
28S	3695		ψ	ψ			Water
28S	3701	Cm	Cm	Cm	PO4		
28S	3715	ψ	ψ	ψ			Base O2
28S	3718	Am	Am	Am	Ribose O2'		
28S	3723	Am	Am	Am	ND	ND	
28S	3729	ψ	ψ	ψ			PO4
28S	3734		ψ	ND			
28S	3744		Gm	Gm	Ribose O4'		
28S	3758		ψ	ND			
28S	3760		Am	ND			
28S	3762	m1ψ	ψ	ND			
28S	3764	ψ	ψ	ND			
28S	3768		ψ	ND			
28S	3770		ψ	ND			
28S	3782	m5C	m5C	m5C	Water		

Supplementary Table 2

28S	3785	Am	Am	Am		Base C5 / CM'	
28S	3792	Gm	Gm	Gm	Water		
28S	3808		Cm	Cm	Ribose O4'		
28S	3818		Ψm	Ψm	Water	HIS side chain	PO4
28S	3822		Ψ	ND			
28S	3825	Am	Am	Am	Water		
28S	3830		Am	Am	Water		
28S	3841		Cm	Cm	Water		
28S	3844		Ψ	Ψ			Water
28S	3851		Ψ	Ψ			Water
28S	3853		Ψ	Ψ			PO4
28S	3867	Am	Am	Am	Water / Ribose O4'	Base C2	
28S	3869	Cm	Cm	Cm	Ribose O4'	LYS side chain	
28S	3880	xp7G					
28S	3884		Ψ	Ψ			Water
28S	3887	Cm	Cm	Cm	Water	Base C2	
28S	3897	ac7G					
28S	3899	ac7Gm	Gm	Gm	Water		
28S	3909	Cm					
28S	3920		Ψ	Ψ			Water
28S	3925		Um	Um	Protein carbonyl	PRO side chain	
28S	3944		Gm	ND			
28S	3959		Ψ	ND			
28S	4042		Gm	ND			
28S	4054		Cm	ND			
28S	4083	m5U					
28S	4129	m6G					
28S	4185	m6G					
28S	4194	xp4U					

Supplementary Table 2

28S	4196	Gm	Gm	Gm	Ribose O2' / Ribose O4' / Water	Ribose C1'	
28S	4220	m6A	m6A	m6A	Ribose O2'		
28S	4227		Um	Um	Ribose O4' / Water		
28S	4228		Gm	Gm	Water / THR side chain		
28S	4293	ψ	ψ	ψ			Ribose O2'
28S	4296	m1ψ	ψ	ψ			Water
28S	4299		ψ	ψ			Water
28S	4306	Um	Um	Um	Water / TYR side chain		
28S	4312		ψ	ψ			Water
28S	4335	m5C					
28S	4353		ψ	ψ			Water
28S	4355	xe6G					
28S	4361		ψ	ψ			Water
28S	4370	Gm	Gm	Gm	ND	ND	
28S	4371	m2xp7G					
28S	4392		Gm	Gm		Base / CM5	
28S	4403	ψ	ψ	ψ			Water
28S	4415	m1A					
28S	4420		ψ	ψ			PO4
28S	4423		ψ	ψ			Water
28S	4431		ψ	ψ			Water
28S	4442	ψ	ψ	ψ			Water
28S	4447	m5C	m5C	m5C	Ribose O4'	CM'	
28S	4450	ψ					
28S	4456		Cm	Cm		PRO side chain	
28S	4457		ψ	ψ			Water
28S	4471		ψ	ψ			Water
28S	4472	m6G					
28S	4483	m4C					

Supplementary Table 2

28S	4493		ψ	ψ			Ribose O2'
28S	4494	Gm	Gm	Gm	Ribose O4'	VAL side chain	
28S	4498		Um	Um	Ribose O4'	Base C8	
28S	4499		Gm	Gm	Water / Ribose O2'		
28S	4500	ψ	ψ	ψ			Base O4
28S	4521		ψ	ψ			Water
28S	4523	Am	Am	Am	PO4		
28S	4529	m6G					
28S	4530	m3U	m3U	m3U	Water		
28S	4531	ψ					
28S	4532		ψ	ψ			Water
28S	4536	Cm	Cm	Cm	Ribose O4'	CM'	
28S	4550	m7G					
28S	4552		ψ	ψ			Water
28S	4564	m7A					
28S	4571	Am	Am	Am	Water	Ribose C1'	
28S	4576		ψ	ψ			Water
28S	4579		ψ	ψ			Water
28S	4590		Am	Am	Water		
28S	4597	m3U					
28S	4618		Gm	Gm	Water		
28S	4620	Um	Um	Um	Water	Ribose C5' / PRO side chain	
28S	4623	Gm	Gm	Gm	Ribose O4'		
28S	4628	ψ	ψ	ψ			Water
28S	4636	ψ	ψ	ND			
28S	4637	Gm	Gm	Gm	Base O2		
28S	4671	m4C					
28S	4673		ψ	ψ			Water
28S	4689		ψ	ψ			Water

Supplementary Table 2

28S	4690	ac7G			
28S	4870	Gm			
28S	4872	m2G			
28S	4972		ψ	ψ	Water
28S	5001		ψ	ψ	Water
28S	5010		ψ	ψ	Water
5.8S	14	Um	Um		
5.8S	55		ψ	ψ	Water
5.8S	69		ψ	ψ	Water
5.8S	75		Gm	Gm	MET side chain
Total		102	137	117	

Supplementary Table 2