

Table S3 - Assignment of substitution models and composition of the phylogenomic datasets

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X							111209	LG	RtREV
X	X						111212	LG	Blosum62
X	X	X					111214	LG	WAG
X	X	X					111215	LG	RtREV
X	X	X	X	X	rps-23	S23	111216	LG	RtREV
X	X	X	X	X	rps-13	S13	111217	LG	JTT
X	X	X					111222	LG	JTT
X							111225	RtREV	LG
X	X	X					111229	LG	JTT
X		X					111230	JTT	LG
X	X						111233	LG	RtREV
X	X	X					111237	LG	JTT
X	X	X					111238	RtREV	LG
X							111242	CpREV	WAG
X	X	X					111243	LG	JTT
X	X	X	X				111249	LG	WAG
X	X	X	X				111259	LG	WAG
X							111263	CpREV	Blosum62
X							111265	LG	RtREV
X	X	X					111266	LG	RtREV
X	X						111270	LG	RtREV
X	X	X	X	X	rps-17	S17	111274	LG	RtREV
X	X	X					111275	LG	JTT
X	X	X	X	X	rps-11	S11	111277	LG	RtREV
X	X	X					111278	LG	RtREV
X	X						111279	LG	RtREV
X	X	X					111280	LG	WAG
X		X					111285	LG	RtREV
X	X	X	X				111286	LG	WAG
X	X	X	X				111287	LG	WAG
X	X	X					111290	LG	JTT
X		X					111291	LG	RtREV
X	X	X					111295	LG	RtREV
X	X						111296	LG	JTT
X							111297	LG	Blosum62
X	X						111298	LG	JTT
X	X	X					111299	LG	WAG
X	X	X	X				111305	LG	CpREV
X	X	X					111309	LG	RtREV

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X		X					111313	LG	WAG
X	X						111315	LG	JTT
X	X	X					111316	LG	RtREV
X		X	X	X	rpl-28	L28	111318	LG	WAG
X		X					111328	RtREV	LG
X							111331	LG	RtREV
X							111334	Blosum62	LG
X	X	X					111335	WAG	LG
X							111344	LG	RtREV
X	X	X					111345	LG	RtREV
X	X	X	X				111347	WAG	LG
X	X	X					111349	LG	WAG
X	X						111350	LG	RtREV
X	X						111352	LG	Blosum62
X	X						111356	LG	JTT
X	X						111357	Blosum62	LG
X	X	X					111367	LG	Blosum62
X							111376	LG	RtREV
X							111377	VT	Blosum62
X	X						111379	LG	JTT
X		X					111388	LG	CpREV
X	X	X					111393	LG	CpREV
X	X	X	X	X	rpl-11.2	L11	111394	LG	WAG
X							111395	LG	WAG
X	X	X					111399	LG	WAG
X	X	X	X				111405	LG	RtREV
X	X	X	X				111413	LG	RtREV
X	X	X					111414	LG	WAG
X							111419	WAG	LG
X	X	X					111421	LG	RtREV
X		X	X				111423	LG	RtREV
X	X						111425	VT	Blosum62
X	X	X					111426	LG	RtREV
X		X					111427	LG	RtREV
X		X	X				111429	LG	RtREV
X		X					111430	LG	WAG
X	X	X					111432	LG	RtREV
X	X	X	X				111435	LG	WAG
X		X					111436	RtREV	LG
X	X						111444	LG	RtREV
X	X						111448	LG	Blosum62
X	X	X	X				111451	LG	RtREV

mintax4	mintax4_slow	mintax8	most purpositive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X	X	X	X				111457	JTT	LG
X	X						111459	RtREV	LG
X	X						111463	LG	WAG
X	X	X	X	X	rps-18	S18	111466	LG	RtREV
X	X	X					111469	LG	RtREV
X							111471	JTT	LG
X	X	X					111475	LG	RtREV
X							111481	LG	RtREV
X							111483	LG	VT
X	X	X	X				111485	LG	RtREV
X	X	X	X	X	rpl-13	L13	111491	LG	RtREV
X							111493	LG	WAG
X	X	X	X				111496	LG	RtREV
X	X	X					111497	LG	RtREV
X	X						111501	LG	RtREV
X	X	X					111504	LG	RtREV
X	X						111507	LG	Blosum62
X							111509	LG	CpREV
X	X	X	X				111510	LG	RtREV
X	X	X					111516	LG	RtREV
X							111518	LG	RtREV
X	X	X	X				111519	LG	RtREV
X		X					111521	LG	RtREV
X		X					111525	LG	JTT
X	X	X	X				111527	LG	JTT
X	X	X	X				111532	LG	CpREV
X							111535	CpREV	LG
X	X	X	X				111538	Blosum62	RtREV
X	X	X					111539	LG	RtREV
X	X	X					111542	LG	RtREV
X		X					111544	LG	JTT
X	X	X	X	X	rpl-21	L21	111546	LG	RtREV
X	X						111553	LG	RtREV
X	X	X	X	X	rpl-43	L37A	111555	LG	RtREV
X	X						111558	LG	RtREV
X	X						111560	LG	RtREV
X	X						111561	LG	WAG
X	X	X	X				111566	LG	RtREV
X	X	X					111568	LG	WAG
X							111570	LG	RtREV
X	X	X					111572	LG	RtREV
X		X					111576	JTT	LG

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X	X						111579	LG	JTT
X							111583	LG	RtREV
X	X	X	X				111585	LG	WAG
X	X	X	X	X	rps-7	S7	111587	LG	RtREV
X							111588	JTT	LG
X	X	X	X	X	rps-9	S9	111595	LG	JTT
X		X					111596	LG	WAG
X	X	X					111598	LG	RtREV
X	X	X		X	rpl-23	L23	111599	RtREV	LG
X		X					111600	LG	Blosum62
X	X	X					111603	LG	Dayhoff
X	X	X					111604	LG	Dayhoff
X	X						111607	LG	RtREV
X	X	X	X				111608	VT	LG
X							111611	LG	RtREV
X	X	X					111618	LG	WAG
X	X						111619	LG	WAG
X		X					111620	LG	RtREV
X	X	X	X	X	rpl-22	L22	111622	LG	WAG
X	X	X					111623	LG	WAG
X	X	X					111625	JTT	LG
X	X	X	X				111626	LG	RtREV
X		X					111628	LG	WAG
X	X	X					111629	LG	WAG
X	X	X					111631	LG	RtREV
X	X						111634	LG	RtREV
X	X	X					111636	LG	RtREV
X		X					111639	RtREV	LG
X	X	X					111643	LG	JTT
X	X						111647	LG	RtREV
X	X	X	X				111648	LG	RtREV
X		X					111653	LG	CpREV
X							111654	WAG	LG
X	X	X	X				111657	LG	RtREV
X	X	X					111661	LG	Dayhoff
X	X	X					111668	LG	JTT
X	X	X					111676	CpREV	LG
X	X	X					111677	JTT	WAG
X	X	X	X				111678	LG	WAG
X							111679	LG	Blosum62
X	X	X					111681	WAG	Dayhoff
X	X	X					111686	LG	JTT

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X		X					111699	VT	LG
X	X						111701	LG	RtREV
X	X	X	X	X	rpl-35	L35	111702	LG	RtREV
X	X	X					111707	LG	CpREV
X	X	X	X	X	rpl-24.1	L24	111711	LG	RtREV
X	X	X					111723	LG	JTT
X							111729	LG	WAG
X	X	X	X				111730	LG	JTT
X	X	X					111731	LG	RtREV
X	X	X	X	X	rpl-31	L31	111733	LG	RtREV
X	X	X					111734	WAG	LG
X	X	X					111738	RtREV	LG
X	X	X					111741	LG	JTT
X	X	X	X	X	rpl-10	L10	111744	LG	RtREV
X							111747	LG	RtREV
X	X						111749	LG	WAG
X	X	X					111763	LG	WAG
X	X	X					111768	LG	RtREV
X							111770	LG	Blosum62
X	X	X	X	X	rpl-4	L4	111775	LG	RtREV
X	X						111776	JTT	WAG
X	X						111777	LG	WAG
X	X						111778	LG	RtREV
X	X	X					111781	RtREV	LG
X							111784	LG	RtREV
X	X						111786	LG	RtREV
X	X	X					111787	LG	RtREV
X	X	X					111789	JTT	Dayhoff
X							111792	LG	JTT
X							111795	LG	WAG
X	X	X					111796	LG	RtREV
X	X	X					111797	LG	RtREV
X	X	X					111803	LG	RtREV
X	X						111807	LG	WAG
X	X	X					111812	LG	Blosum62
X	X	X	X	X	rpl-17	L17	111814	LG	JTT
X	X	X	X	X	rps-22	S15A	111815	LG	RtREV
X	X						111816	Dayhoff	DCMut
X	X						111818	LG	JTT
X	X						111820	LG	RtREV
X							111825	LG	WAG
X							111828	LG	RtREV

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X	X	X	X				111829	LG	Blosum62
X	X	X	X	X	rps-27	S27	111830	DCMut*	Dayhoff
X							111841	LG	RtREV
X	X						111844	LG	RtREV
X		X	X				111848	LG	Blosum62
X		X					111849	LG	RtREV
X	X						111857	LG	RtREV
X							111860	LG	Blosum62
X	X	X					111861	LG	JTT
X	X	X					111863	RtREV	LG
X		X	X				111865	LG	CpREV
X	X	X	X				111866	CpREV	LG
X	X	X					111870	LG	RtREV
X	X	X	X	X	rpl-7	L7	111873	LG	RtREV
X	X						111874	LG	RtREV
X	X	X					111889	LG	JTT
X	X						111893	Blosum62	LG
X	X						111894	LG	RtREV
X	X	X	X	X	rps-8	S8	111898	LG	RtREV
X							111900	LG	WAG
X	X						111905	LG	WAG
X	X	X	X	X	rps-24	S24	111917	LG	RtREV
X							111923	LG	JTT
X	X	X	X				111931	LG	RtREV
X	X						111932	LG	JTT
X		X	X	X	rpl-6	L6	111935	LG	WAG
X		X					111938	LG	RtREV
X	X	X	X	X	rpl-20	L18A	111945	LG	RtREV
X	X	X					111948	LG	RtREV
X	X						111950	LG	RtREV
X	X	X					111951	LG	CpREV
X		X	X				111952	LG	Blosum62
X	X						111953	LG	RtREV
X	X	X					111956	LG	JTT
X		X					111958	LG	RtREV
X	X	X					111959	LG	JTT
X	X	X					111960	LG	WAG
X	X	X					111962	Dayhoff	DCMut
X							111963	LG	Blosum62
X							111967	RtREV	LG
X	X						111971	LG	RtREV
X							111972	LG	RtREV

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X							111978	RtREV	LG
X	X	X					111984	LG	RtREV
X	X			X	rps-2	S2	111988	RtREV	LG
X	X	X	X	X	rpl-7A	L7A	111989	LG	RtREV
X		X	X	X	rpl-24.2	L24 paralog	111992	LG	WAG
X		X					111995	LG	Blosum62
X	X	X	X				111998	LG	JTT
X	X						112002	LG	JTT
X	X	X		X	rpl-3	L3	112003	RtREV	LG
X	X	X					112004	LG	WAG
X							112007	LG	RtREV
X	X	X					112012	LG	RtREV
X	X	X					112013	LG	WAG
X							112021	LG	WAG
X	X						112028	LG	WAG
X	X	X	X				112029	LG	RtREV
X	X	X	X				112034	LG	WAG
X		X	X				112037	LG	WAG
X	X	X	X	X	rpl-2	L8	112038	RtREV	LG
X							112040	CpREV	LG
X	X						112044	LG	WAG
X	X						112047	RtREV	Blosum62
X	X						112056	LG	WAG
X	X	X					112060	JTT	LG
X	X						112064	LG	Dayhoff
X	X	X					112066	LG	JTT
X	X	X	X	X	rps-1	S3A	112067	LG	RtREV
X	X	X					112072	LG	WAG
X							112082	CpREV	JTT
X	X	X					112083	LG	WAG
X	X						112087	LG	WAG
X	X	X					112088	LG	RtREV
X							112096	LG	RtREV
X	X						112097	LG	WAG
X	X	X	X				112102	LG	JTT
X	X						112106	LG	WAG
X	X	X					112107	LG	RtREV
X	X	X					112108	LG	JTT
X	X	X	X	X	rpl-14	L14	112115	LG	RtREV
X	X	X					112123	Dayhoff	DCMut
X	X	X					112124	JTT	LG
X	X	X					112126	RtREV	LG

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X	X						112129	LG	RtREV
X	X	X					112130	LG	CpREV
X	X	X	X				112137	LG	RtREV
X	X	X					112141	LG	RtREV
X	X	X					112142	LG	WAG
X	X	X	X				112144	LG	JTT
X	X	X					112147	LG	RtREV
X	X	X					112156	LG	JTT
X	X	X					112158	LG	RtREV
X	X	X					112160	LG	JTT
X							112161	RtREV	LG
X	X	X					112163	LG	RtREV
X	X	X					112164	LG	RtREV
X	X	X					112168	LG	WAG
X	X	X					112169	LG	RtREV
X		X					112170	LG	CpREV
X		X	X	X	rpl-29	L29	112178	RtREV	Blosum62
X	X	X	X				112181	LG	JTT
X	X	X	X				112182	LG	RtREV
X							112184	Blosum62	LG
X		X					112187	RtREV	LG
X							112191	LG	WAG
X	X	X	X	X	rpl-1	L10A	112195	LG	RtREV
X	X	X					112199	LG	RtREV
X	X						112201	LG	CpREV
X	X	X	X	X	rps-26	S26	112202	LG	JTT
X	X	X	X				112203	LG	JTT
X	X	X	X	X	rps-6	S6	112204	LG	RtREV
X							112205	Blosum62	VT
X	X	X					112206	LG	WAG
X	X	X					112207	LG	Blosum62
X	X						112211	LG	RtREV
X	X	X					112214	LG	RtREV
X	X						112221	LG	WAG
X	X	X		X	rpl-18	L18	112223	LG	RtREV
X	X	X					112226	LG	WAG
X	X						112231	LG	RtREV
X		X					112233	CpREV	LG
X	X	X					112239	Blosum62	LG
X	X						112240	LG	RtREV
X	X	X	X	X	rpl-9	L9	112242	LG	RtREV
X	X	X					112255	LG	WAG

mintax4	mintax4_slow	mintax8	most purposive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X	X	X					112256	LG	RtREV
X	X	X					112258	LG	RtREV
X	X						112265	LG	RtREV
X							112267	LG	RtREV
X	X	X	X				112271	LG	RtREV
X	X	X					112281	LG	JTT
X	X	X					112284	LG	WAG
X	X						112287	LG	Blosum62
X	X						112288	RtREV	LG
X	X	X					112290	RtREV	LG
X		X	X				112291	WAG	LG
X	X	X					112292	LG	RtREV
X		X					112293	LG	WAG
X							112296	LG	JTT
X	X	X					112297	JTT	LG
X	X	X					112298	LG	WAG
X							112299	LG	WAG
X	X	X					112300	LG	RtREV
X	X	X	X	X	rpl-41	L41	112301	Dayhoff	DCMut
X	X						112302	RtREV	LG
X	X	X	X				112307	LG	RtREV
X							112308	LG	RtREV
X	X	X					112310	LG	RtREV
X	X	X					112311	LG	CpREV
X							112312	LG	WAG
X	X	X					112315	LG	RtREV
X	X						112320	LG	JTT
X	X	X					112321	JTT	LG
X	X	X	X	X	rps-20	S20	112322	LG	RtREV
X	X	X					112324	RtREV	LG
X							112325	LG	RtREV
X							112330	LG	JTT
X	X						112337	LG	RtREV
X	X	X					112339	LG	WAG
X	X						112342	LG	RtREV
X	X	X					112345	WAG	VT
X	X						112349	LG	RtREV
X	X	X					112350	LG	JTT
X	X	X					112354	LG	RtREV
X	X	X	X	X	rps-5	S5	112355	LG	RtREV
X	X	X	X	X	rpl-30	L30	112358	LG	RtREV
X	X	X	X	X	rpl-15	L15	112359	LG	RtREV

	mintax4	mintax4_slow	mintax8	most purpositive subset	ribosomal protein	<i>C. elegans</i> gene name	corresponding RP	Ortholog ID	Best Model	second best model
X	X	X	X					112366	WAG	LG
X	X	X						112367	LG	WAG
X	X	X						112371	RtREV	LG
X	X	X						112372	LG	RtREV
X	X							112374	LG	RtREV
X	X							112375	LG	WAG
X	X	X	X					112376	LG	Dayhoff
X	X	X	X					112379	LG	RtREV
X		X						112380	LG	RtREV
X								112381	LG	Blosum62
X	X	X						112382	WAG	LG
X	X	X	X					112386	LG	RtREV
X	X							112388	LG	RtREV
X	X	X	X	X	X	rpl-36	L36	112394	RtREV	LG
X	X	X						112399	LG	JTT
X		X						112402	LG	RtREV
X		X						112403	LG	RtREV
X	X	X	X	X	X	rps-12	S12	112414	LG	WAG
X	X	X						112415	LG	RtREV
X	X	X	X	X	X	rpl-26	L26	112417	LG	RtREV
X	X							112421	LG	WAG
X	X	X						112422	LG	JTT
X	X							112423	LG	RtREV
X	X	X	X	X	X	rpl-27	L27	112425	LG	RtREV
X	X	X						112427	LG	JTT
X								112430	LG	RtREV
X		X						112432	LG	WAG
X	X	X	X					112433	LG	JTT
X	X	X	X	X	X	rpl-16	L13A	112436	LG	RtREV
X	X	X						112438	LG	RtREV
X	X	X						112443	LG	JTT
X	X	X	X					112448	LG	RtREV
X	X	X	X					112449	LG	RtREV
X	X							112450	LG	RtREV
X	X	X	X	X	X	rps-21	S21	112451	LG	Blosum62

sum 410 307 272 101 51

* = special case: always assigned to partition "Dayhoff"