gene	Pylogeny				IQTree			
	Unconstraint	Hypothesis A	Hypothesis B	Hypothesis A	Unconstraint	Hypothesis A	Hypothesis B	Hypothesis C
$psbA$	-2184.055669	-2186.785141	-2185.996587	-2186.810597	-2183.8564	-2186.5871	-2185.783	-2186.5814
Δ		2.7295	1.9409	2.7549		2.7307	1.9266	2.725
$matK$	-4299.833725	-4299.983931	-4299.981709	-4299.980796	-4299.1449	-4299.1549	-4299.1548	-4299.1525
Δ		0.1502	0.148	0.1471		0.01	0.0099	0.0076
$rps16$	-673.643296	-673.646907	-674.634814	-674.634843	-673.647	-673.6333	-674.6703	-674.6124
Δ		0.0036	0.9915	0.9915		-0.0137	1.0233	0.9654
$psbK$	-417.535653	-418.669989	-418.90115	-418.905467	-417.4871	-418.5103	-418.7749	-418.7747
Δ		1.1343	1.3655	1.3698		1.0232	1.2878	1.2876
$psbI$	-229.805604	-230.088327	-230.092441	-230.110087	-229.3686	-229.3813	-229.4422	-229.467
Δ		0.2827	0.2868	0.3045		0.0127	0.0736	0.0984
$atpA$	-3572.281539	-3576.668886	-3572.343446	-3575.380999	-3572.1215	-3576.4238	-3572.1314	-3575.1109
Δ		4.3873	0.0619	3.0995		4.3023	0.0099	2.9894
$atpF$	-1371.156614	-1372.18538	-1371.150657	-1372.185395	-1371.133	-1372.1661	-1371.1375	-1372.1652
Δ		1.0288	-0.006	1.0288		1.0331	0.0045	1.0322
$atpH$	-467.817361	-469.102745	-475.935312	-474.667975	-467.7132	-468.6624	-471.5292	-471.529
Δ		1.2854	8.118	6.8506		0.9492	3.816	3.8158
$atpI$	-1647.170324	-1648.864047	-1648.543258	-1648.86713	-1647.1052	-1648.8811	-1648.4662	-1648.8081
Δ		1.6937	1.3729	1.6968		1.7759	1.361	1.7029
$rps2$	-1677.299322	-1683.885121	-1681.607197	-1684.123339	-1677.2109	-1683.6218	-1681.3223	-1683.8382
Δ		6.5858	4.3079	6.824		6.4109	4.1114	6.6273
$rpoC2$	-11904.493563	-11906.573939	-11904.714157	-11906.608566	-11903.5921	-11905.4924	-11903.6203	-11905.5043
Δ		2.0804	0.2206	2.115		1.9003	0.0282	1.9122
$rpoC1$	-5464.684648	-5465.105625	-5464.729955	-5464.867667	-5464.2072	-5464.6166	-5464.228	-5464.3751
Δ		0.421	0.0453	0.183		0.4094	0.0208	0.1679
$rpoB$	-7687.828501	-7688.447481	-7687.832336	-7688.465057	-7687.8418	-7688.4588	-7687.8643	-7688.4745
Δ		0.619	0.0038	0.6366		0.617	0.0225	0.6327
$petN$	-144.685382	-144.685372	-144.685372	-144.685367	-144.6424	-144.6429	-144.6429	-144.6429
Δ		-0.0	-0.0	-0.0		0.0005	0.0005	0.0005
$psbM$	-174.127879	-174.127876	-174.127873	-174.127873	-173.8064	-173.8069	-173.8069	-173.8067
Δ		-0.0	-0.0	-0.0		0.0005	0.0005	0.0003
$psbD$	-2111.799704	-2111.78441	-2113.176228	-2113.301887	-2111.762	-2111.772	-2113.1629	-2113.3144
Δ		-0.0153	1.3765	1.5022		0.01	1.4009	1.5524
$psbC$	-2953.670993	-2956.880994	-2954.07766	-2957.145994	-2953.5398	-2956.6444	-2953.7445	-2956.8919
Δ		3.21	0.4067	3.475		3.1046	0.2047	3.3521
$psbZ$	-345.811792	-348.925104	-345.598833	-348.929085	-345.4354	-348.6948	-345.4364	-348.6936
Δ		3.1133	-0.213	3.1173		3.2594	0.001	3.2582
$rps14$	-686.126324	-686.126815	-686.126488	-686.126577	-686.0557	-686.0581	-686.058	-686.0576
Δ		0.0005	0.0002	0.0003		0.0024	0.0023	0.0019
$psaB$	-4533.902007	-4533.94517	-4533.952854	-4533.938272	-4534.1307	-4533.8984	-4534.1978	-4533.884
Δ		0.0432	0.0508	0.0363		-0.2323	0.0671	-0.2467
$psaA$	-4614.673075	-4614.733804	-4614.735115	-4614.787735	-4614.6437	-4614.6666	-4614.6671	-4614.7639
Δ		0.0607	0.062	0.1147		0.0229	0.0234	0.1202
$ycf3$	-884.168764	-886.511324	-886.355561	-883.884539	-882.5803	-883.413	-883.4276	-882.5834
Δ		2.3426	2.1868	-0.2842		0.8327	0.8473	0.0031
$rps4$	-1404.103459	-1404.200642	-1404.464107	-1404.470152	-1404.1295	-1404.1331	-1404.3872	-1404.3875
Δ		0.0972	0.3606	0.3667		0.0036	0.2577	0.258
$ndhJ$	-1092.358198	-1093.484771	-1093.679499	-1092.349903	-1092.3543	-1093.4812	-1093.6584	-1092.3559
Δ		1.1266	1.3213	-0.0083		1.1269	1.3041	0.0016
$ndhK$	-1829.731668	-1829.715811	-1829.78018	-1829.780507	-1829.7121	-1829.7144	-1829.7575	-1829.7557
Δ		-0.0159	0.0485	0.0488		0.0023	0.0454	0.0436
$ndhC$	-785.784842	-786.656155	-787.279746	-785.839209	-785.6719	-786.4818	-787.1082	-785.6724
Δ		0.8713	1.4949	0.0544		0.8099	1.4363	0.0005
$atpE$	-1127.991088	-1134.522323	-1130.235923	-1134.439576	-1127.995	-1134.2378	-1130.1411	-1134.2382
Δ		6.5312	2.2448	6.4485		6.2428	2.1461	6.2432
$atpB$	-3472.127838	-3472.223161	-3472.223519	-3472.213427	-3471.7988	-3471.8296	-3471.8264	-3471.8034
Δ		0.0953	0.0957	0.0856		0.0308	0.0276	0.0046
$rbcL$	-3221.424997	-3221.806581	-3221.618311	-3221.839573	-3220.9564	-3221.1509	-3220.9663	-3221.32
Δ		0.3816	0.1933	0.4146		0.1945	0.0099	0.3636
$accD$	-5138.419382	-5138.426388	-5139.830118	-5139.694262	-5138.215	-5138.2248	-5139.5453	-5139.366
Δ		0.007	1.4107	1.2749		0.0098	1.3303	1.151
$psaI$	-270.553556	-270.56535	-270.569116	-270.565355	-270.6644	-270.5215	-270.5215	-270.5215
Δ		0.0118	0.0156	0.0118		-0.1429	-0.1429	-0.1429
$ycf4$	-1471.550848	-1471.567543	-1471.54026	-1471.537449	-1471.5776	-1471.537	-1471.5803	-1471.5358
Δ		0.0167	-0.0106	-0.0134		-0.0406	0.0027	-0.0418
$cemA$	-1663.266688	-1663.51835	-1663.787865	-1663.274657	-1663.2617	-1663.4679	-1663.7453	-1663.2625
Δ		0.2517	0.5212	0.008		0.2062	0.4836	0.0008
$petA$	-2366.523831	-2369.057543	-2369.223028	-2368.263659	-2366.4712	-2368.9864	-2369.2205	-2368.2427
Δ		2.5337	2.6992	1.7398		2.5152	2.7493	1.7715
$psbJ$	-251.522409	-253.952493	-254.023052	-253.950941	-251.7614	-253.3169	-253.9102	-253.9104
Δ		2.4301	2.5006	2.4285		1.5555	2.1488	2.149
$psbL$	-186.374509	-188.574712	-188.574568	-188.575303	-186.1868	-187.9384	-187.9384	-187.9249
Δ		2.2002	2.2001	2.2008		1.7516	1.7516	1.7381
$psbF$	-206.853296	-206.7102	-206.708186	-206.707428	-206.746	-206.7466	-206.7466	-206.7464
Δ		-0.1431	-0.1451	-0.1459		0.0006	0.0006	0.0004
$psbE$	-447.006377	-450.20123	-452.607303	-452.643164	-446.9014	-447.2882	-447.2885	-447.2887
Δ		3.1949	5.6009	5.6368		0.3868	0.3871	0.3873
$petL$	-169.472016	-171.225031	-171.216118	-171.275905	-169.7702	-171.1752	-171.3911	-171.1753
Δ		1.753	1.7441	1.8039		1.405	1.6209	1.4051
$petG$	-207.171019	-209.61825	-209.618388	-209.618418	-207.1777	-209.6277	-209.6479	-209.6519
Δ		2.4472	2.4474	2.4474		2.45	2.4702	2.4742
$psaJ$	-275.763842	-281.770045	-282.20862	-282.234275	-276.8229	-281.7847	-282.3117	-282.3058
Δ		6.0062	6.4448	6.4704		4.9618	5.4888	5.4829
$rpl33$	-453.720787	-460.798035	-461.632983	-461.296329	-453.4248	-453.8006	-454.3749	-454.376
Δ		7.0772	7.9122	7.5755		0.3758	0.9501	0.9512
$rps18$	-742.836195	-743.71508	-747.226338	-747.470889	-742.6662	-743.5405	-747.045	-747.2807
Δ		0.8789	4.3901	4.6347		0.8743	4.3788	4.6145

gene	Pylogeny				IQTree			
	Unconstraint	Hypothesis A	Hypothesis B	Hypothesis A	Unconstraint	Hypothesis A	Hypothesis B	Hypothesis C
rpl20	-932.2089	-934.897396	-932.228567	-934.98397	-932.1743	-934.8928	-932.1782	-934.9843
Δ		2.6885	0.0197	2.7751		2.7185	0.0039	2.81
psbB	-3351.252697	-3351.253329	-3354.705079	-3354.740522	-3351.1453	-3351.1539	-3354.4813	-3354.4789
Δ		0.0006	3.4524	3.4878		0.0086	3.336	3.3336
psbT	-258.655676	-258.658486	-263.422043	-263.422174	-258.6305	-258.6319	-263.332	-263.3216
Δ		0.0028	4.7664	4.7665		0.0014	4.7015	4.6911
psbN	-245.39165	-244.831048	-245.302488	-244.880695	-244.6856	-244.8809	-245.2959	-245.2924
Δ		-0.5606	-0.0892	-0.511		0.1953	0.6103	0.6068
psbH	-576.10994	-576.13467	-576.134627	-576.122421	-576.0947	-576.1018	-576.1025	-576.0961
Δ		0.0247	0.0247	0.0125		0.0071	0.0078	0.0014
petB	-1413.725341	-1413.674562	-1413.809672	-1413.809693	-1413.575	-1413.5752	-1413.5727	-1413.5755
Δ		-0.0508	0.0843	0.0844		0.0002	-0.0023	0.0005
petD	-1346.305237	-1351.095305	-1350.392785	-1351.108462	-1346.2312	-1350.144	-1349.3339	-1350.2609
Δ		4.7901	4.0875	4.8032		3.9128	3.1027	4.0297
rpoA	-2855.72353	-2855.611543	-2855.612025	-2855.611735	-2855.3588	-2855.3706	-2855.3731	-2855.3727
Δ		-0.112	-0.1115	-0.1118		0.0118	0.0143	0.0139
rps11	-1075.010583	-1074.75333	-1074.300372	-1074.732467	-1073.41	-1074.0814	-1073.4334	-1074.0814
Δ		-0.2573	-0.7102	-0.2781		0.6714	0.0234	0.6714
rpl36	-247.501246	-249.961826	-249.616838	-249.488752	-247.1918	-247.1927	-247.1927	-247.1927
Δ		2.4606	2.1156	1.9875		0.0009	0.0009	0.0009
infA	-594.304277	-596.448214	-595.926076	-596.43304	-594.0916	-596.1817	-595.6368	-596.2833
Δ		2.1439	1.6218	2.1288		2.0901	1.5452	2.1917
rps8	-950.213111	-953.27369	-953.267311	-950.210393	-950.0371	-953.1255	-953.1255	-950.0409
Δ		3.0606	3.0542	-0.0027		3.0884	3.0884	0.0038
rpl14	-787.628399	-787.641655	-788.466065	-788.466081	-787.5699	-787.5727	-788.4203	-788.4202
Δ		0.0133	0.8377	0.8377		0.0028	0.8504	0.8503
rpl16	-1132.760976	-1134.021311	-1134.417038	-1136.404586	-1132.6741	-1132.6772	-1134.3002	-1135.0719
Δ		1.2603	1.6561	3.6436		0.0031	1.6261	2.3978
rps3	-1598.098816	-1599.22095	-1599.281301	-1599.077309	-1597.8362	-1599.0681	-1599.092	-1598.8702
Δ		1.1221	1.1825	0.9785		1.2319	1.2558	1.034
rpl22	-961.198327	-962.61967	-962.624234	-962.624224	-960.9159	-962.3555	-962.3641	-962.3885
Δ		1.4213	1.4259	1.4259		1.4396	1.4482	1.4726
rps19	-847.889441	-848.182274	-847.963119	-848.581359	-847.8301	-847.9909	-847.833	-848.4406
Δ		0.2928	0.0737	0.6919		0.1608	0.0029	0.6105
rpl2	-1572.427158	-1572.455639	-1572.479594	-1572.459084	-1572.4876	-1572.5228	-1572.3946	-1572.3937
Δ		0.0285	0.0524	0.0319		0.0352	-0.093	-0.0939
rpl23	-444.257945	-444.289535	-444.304889	-444.305008	-444.2139	-444.2176	-444.2176	-444.2176
Δ		0.0316	0.0469	0.0471		0.0037	0.0037	0.0037
ycf2	-15704.779193	-15704.652139	-15705.981175	-15705.613385	-15702.8572	-15702.8936	-15704.0171	-15703.95
Δ		-0.1271	1.202	0.8342		0.0364	1.1599	1.0928
ndhB	-2540.626813	-2537.035164	-2537.092632	-2537.091868	-2532.1352	-2532.1462	-2532.6854	-2532.6851
Δ		-3.5916	-3.5342	-3.5349		0.011	0.5502	0.5499
rps7	-799.985242	-800.723464	-800.716243	-800.652855	-791.0678	-792.9988	-792.9987	-791.0713
Δ		0.7382	0.731	0.6676		1.931	1.9309	0.0035
rps12	-667.73607	-701.210385	-699.17166	-701.21178	-667.7155	-701.0819	-699.3204	-701.0817
Δ		33.4743	31.4356	33.4757		33.3664	31.6049	33.3662
ndhF	-6905.894455	-6905.42064	-6906.687151	-6906.36099	-6904.4484	-6904.4612	-6905.3682	-6905.3681
Δ		-0.4738	0.7927	0.4665		0.0128	0.9198	0.9197
rpl32	-441.646759	-443.787652	-443.829116	-443.816406	-435.9093	-436.1372	-439.6743	-439.6744
Δ		2.1409	2.1824	2.1696		0.2279	3.765	3.7651
ccsA	-2600.904082	-2602.48913	-2600.894772	-2602.469996	-2600.469	-2601.8873	-2600.4696	-2601.8598
Δ		1.585	-0.0093	1.5659		1.4183	0.0006	1.3908
ndhD	-3700.411701	-3701.709841	-3701.710241	-3700.438576	-3700.3538	-3701.6793	-3701.6804	-3700.3133
Δ		1.2981	1.2985	0.0269		1.3255	1.3266	-0.0405
psaC	-510.115318	-514.70899	-516.717803	-518.061711	-509.5222	-514.5715	-516.1699	-516.169
Δ		4.5937	6.6025	7.9464		5.0493	6.6477	6.6468
ndhE	-668.662285	-668.682007	-671.044271	-671.044229	-668.6278	-668.631	-671.0484	-671.0561
Δ		0.0197	2.382	2.3819		0.0032	2.4206	2.4283
ndhG	-1298.810703	-1298.91737	-1298.881649	-1298.888378	-1298.6711	-1298.6748	-1298.6887	-1298.6739
Δ		0.1067	0.0709	0.0777		0.0037	0.0176	0.0028
ndhI	-1214.149336	-1216.893516	-1216.911898	-1216.893655	-1214.1096	-1216.6973	-1216.6979	-1216.6969
Δ		2.7442	2.7626	2.7443		2.5877	2.5883	2.5873
ndhA	-2794.060877	-2794.415312	-2794.313962	-2794.411611	-2793.7465	-2793.8755	-2793.7531	-2793.8704
Δ		0.3544	0.2531	0.3507		0.129	0.0066	0.1239
ndhH	-2767.698563	-2767.733006	-2770.084564	-2770.302874	-2767.7108	-2767.7242	-2770.0077	-2770.2237
Δ		0.0344	2.386	2.6043		0.0134	2.2969	2.5129
rps15	-845.961097	-845.913882	-847.207656	-847.189027	-845.8196	-845.8233	-847.1253	-847.1335
Δ		-0.0472	1.2466	1.2279		0.0037	1.3057	1.3139
ycf1	-24192.916133	-24192.445495	-24194.364158	-24194.762136	-24189.9003	-24190.2121	-24192.2025	-24192.6023
Δ		-0.4706	1.448	1.846		0.3118	2.3022	2.702