

Supplementary Files

Table S1. The 254 soil samples for isolation of dictyostelids collected from eleven study sites on Changbai Mountain in the Jilin Province of China in 2016 and 2017.

Number	Data	Location	Habitat	Collection people	Latitude (north)	Longitude (east)	Altitude (m)
4905	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 47" 52.8	128° 10' 02" 49.2	1155
4906	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 47" 52.8	128° 10' 02" 49.2	1155
4907	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 47" 52.8	128° 10' 02" 49.2	1155
4908	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 47" 52.8	128° 10' 02" 49.2	1155
4909	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 47" 52.8	128° 10' 02" 49.2	1155
4910	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 46" 48	128° 09' 53" 27.6	1133
4911	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 46" 48	128° 09' 53" 27.6	1133
4912	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 46" 48	128° 09' 53" 27.6	1133
4913	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 46" 48	128° 09' 53" 27.6	1133
4914	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 46" 48	128° 09' 53" 27.6	1133
4915	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 56" 38.4	128° 10' 00" 54	1133
4916	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 56" 38.4	128° 10' 00" 54	1133
4917	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 56" 38.4	128° 10' 00" 54	1133

4918	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 56" 38.4	128° 10' 00" 54	1133
4919	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 56" 38.4	128° 10' 00" 54	1133
4920	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 19.2	128° 10' 04" 26.4	1200
4921	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 19.2	128° 10' 04" 26.4	1200
4922	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 19.2	128° 10' 04" 26.4	1200
4923	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 19.2	128° 10' 04" 26.4	1200
4924	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 19.2	128° 10' 04" 26.4	1200
4925	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 26.4	128° 10' 12" 25.2	1134
4926	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 26.4	128° 10' 12" 25.2	1134
4927	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 26.4	128° 10' 12" 25.2	1134
4928	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 26.4	128° 10' 12" 25.2	1134
4929	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 11' 04" 26.4	128° 10' 12" 25.2	1134
4930	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 45" 14.4	128° 10' 06" 21.6	1151
4931	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 45" 14.4	128° 10' 06" 21.6	1151
4932	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 45" 14.4	128° 10' 06" 21.6	1151
4933	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 45" 14.4	128° 10' 06" 21.6	1151

4934	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 45" 14.4	128° 10' 06" 21.6	1151
4935	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 40" 44.4	128° 10' 08" 13.2	1101
4936	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 40" 44.4	128° 10' 08" 13.2	1101
4937	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 40" 44.4	128° 10' 08" 13.2	1101
4938	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 40" 44.4	128° 10' 08" 13.2	1101
4939	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 41" 06	128° 10' 11" 02.4	1161
4940	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 41" 06	128° 10' 11" 02.4	1161
4941	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 41" 06	128° 10' 11" 02.4	1161
4942	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 41" 06	128° 10' 11" 02.4	1161
4943	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 41" 06	128° 10' 11" 02.4	1161
4944	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 36" 50.4	128° 10' 22" 12	1160
4945	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 36" 50.4	128° 10' 22" 12	1160
4946	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 36" 50.4	128° 10' 22" 12	1160
4947	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 36" 50.4	128° 10' 22" 12	1160
4948	2016.8.28	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 10' 36" 50.4	128° 10' 22" 12	1160
4949	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 13" 44.4	128° 03' 49" 55.2	1670

4950	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 13" 44.4	128° 03' 49" 55.2	1670
4951	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 13" 44.4	128° 03' 49" 55.2	1670
4952	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 13" 44.4	128° 03' 49" 55.2	1670
4953	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 13" 44.4	128° 03' 49" 55.2	1670
4954	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4955	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4956	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4957	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4958	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4959	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4960	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4961	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 04' 10" 44.4	128° 03' 55" 30	1724
4962	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4963	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4964	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4965	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745

4966	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4967	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4968	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4969	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 06" 43.2	128° 03' 56" 45.6	1745
4970	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4971	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4972	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4973	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4974	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4975	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4976	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4977	2016.8.29	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou, JG Hou	42° 04' 04" 26.4	128° 03' 59" 34.8	1780
4978	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4979	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4980	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4981	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807

4982	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4983	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4984	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4985	2016.8.29	Changbai Mountain Nature Reserve	Mix birch-conifer forest	Y Zou, JG Hou	42° 04' 03" 50.4	128° 03' 59" 52.8	1807
4986	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4987	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4988	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4989	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4990	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4991	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4992	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4993	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 04' 00" 43.2	128° 04' 03" 50.4	1840
4994	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
4995	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
4996	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
4997	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896

4998	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
4999	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
5000	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
5001	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 47" 20.4	128° 04' 02" 45.6	1896
5002	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5003	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5004	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5005	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5006	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5007	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5008	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5009	2016.8.29	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou, JG Hou	42° 03' 34" 15.6	128° 04' 04" 40.8	1958
5010	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5011	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5012	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5013	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979

5014	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5015	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5016	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5017	2016.8.29	Changbai Mountain Nature Reserve	Alpine shrubland	Y Zou, JG Hou	42° 03' 32" 06	128° 04' 05" 13.2	1979
5018	2016.8.29	Changbai Mountain Nature Reserve	Alpine grassland	Y Zou, JG Hou	42° 03' 22" 44.4	128° 04' 00" 57.6	2006
5019	2016.8.29	Changbai Mountain Nature Reserve	Alpine grassland	Y Zou, JG Hou	42° 03' 22" 44.4	128° 04' 00" 57.6	2006
5020	2016.8.29	Changbai Mountain Nature Reserve	Alpine grassland	Y Zou, JG Hou	42° 03' 22" 44.4	128° 04' 00" 57.6	2006
5021	2016.8.29	Changbai Mountain Nature Reserve	Alpine grassland	Y Zou, JG Hou	42° 03' 22" 44.4	128° 04' 00" 57.6	2006
5022	2016.8.29	Changbai Mountain Nature Reserve	Alpine grassland	Y Zou, JG Hou	42° 03' 22" 44.4	128° 04' 00" 57.6	2006
5023	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5024	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5025	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5026	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5027	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5028	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5029	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018

5030	2016.8.29	Changbai Mountain Nature Reserve	Small broadleaf forest	Y Zou, JG Hou	42° 03' 19" 15.6	128° 03' 58" 15.6	2018
5031	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5032	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5033	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5034	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5035	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5036	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5037	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5038	2016.8.29	Changbai Mountain Nature Reserve	Tundra	Y Zou, JG Hou	42° 03' 14" 09.6	128° 03' 59" 52.8	2038
5039	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5040	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5041	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5042	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5043	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5044	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5045	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613

5046	2016.8.29	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 05' 07" 33.6	128° 04' 28" 08.4	1613
5047	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5048	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5049	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5050	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5051	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5052	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5053	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5054	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 18" 18	128° 07' 03" 00	709
5055	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5056	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5057	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5058	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5059	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5060	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5061	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5062	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 19" 15.6	128° 07' 03" 36	720
5063	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5064	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5065	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5066	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5067	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5068	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5069	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5070	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 23" 20.4	128° 07' 1" 44.4	721
5071	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726
5072	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726
5073	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726
5074	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726
5075	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726
5076	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726
5077	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 22" 08.4	128° 07' 00" 25.2	726

5111	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5112	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5113	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5114	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5115	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5116	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5117	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 13" 55.2	128° 07' 08" 13.2	715
5118	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5119	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5120	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5121	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5122	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5123	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5124	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5125	2016.8.30	Beauty pine park	Mixed broadleaf-conifer forest	Y Zou, JG Hou	42° 26' 15" 25.2	128° 07' 9" 57.6	721
5728	2017.9.16	Hanconggou	Mixed broadleaf-conifer forest	Y Zou	42° 24' 08" 33	128° 06' 12" 56	725
5729	2017.9.16	Xibao forestry farm	Mixed broadleaf-conifer forest	Y Zou	42° 22' 17" 84	128° 00' 13" 74	828
5730	2017.9.16	Huangsongpu forestry farm	Mixed broadleaf-conifer forest	Y Zou	42° 14' 08" 77	128° 09' 52" 81	1040
5731	2017.9.16	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou	42° 10' 54" 73	128° 10' 54" 44	1136
5732	2017.9.16	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou	42° 05' 11" 04	128° 04' 27" 05	1595
5733	2017.9.16	Changbai Mountain Nature Reserve	Moss under alpine birch forest	Y Zou	42° 03' 38" 63	128° 03' 38" 41	1743
5734	2017.9.16	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou	42° 04' 21" 52	128° 03' 53" 63	1700
5735	2017.9.16	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou	42° 04' 13" 76	128° 03' 56" 95	1720
5736	2017.9.16	Changbai Mountain Nature Reserve	Mixed broadleaf-conifer forest	Y Zou	42° 04' 03" 34	128° 03' 59" 80	1790
5737	2017.9.16	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou	42° 04' 02" 38	128° 04' 02" 13	1817

5738	2017.9.16	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou	42° 04' 01" 27	128° 04' 03" 97	1824
5739	2017.9.16	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou	42° 03' 59" 68	128° 04' 04" 96	1830
5740	2017.9.16	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou	42° 02' 39" 99	128° 03' 29" 66	1858
5741	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 32" 62	128° 04' 08" 17	2615
5742	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 36" 98	128° 04' 03" 34	2620
5743	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 40" 06	128° 04' 00" 19	2625
5744	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 32" 40	128° 04' 07" 80	2626
5745	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 40" 29	128° 04' 01" 98	2619
5746	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 36" 51	128° 04' 03" 68	2636
5747	2017.9.16	Changbai Mountain Nature Reserve	tundra under stone	Y Zou	42° 01' 34" 29	128° 04' 04" 45	2620
5748	2017.9.16	Changbai Mountain Nature Reserve	Tundra	Y Zou	42° 01' 40" 39	128° 04' 00" 31	2625
5749	2017.9.16	Changbai Mountain Nature Reserve	Volcanics	Y Zou	42° 01' 32" 35	128° 04' 07" 83	2626
5750	2017.9.17	Hancongou	snail shell in broadleaf forest	Y Zou	42° 24' 06" 93	128° 05' 52" 43	776
5751	2017.9.17	Hancongou	Broadleaf forest	Y Zou	42° 24' 06" 93	128° 05' 52" 43	776
5752	2017.9.17	Hancongou	Broadleaf forest	Y Zou	42° 24' 07" 72	128° 05' 52" 14	774
5753	2017.9.17	Hancongou	Broadleaf forest	Y Zou	42° 24' 05" 65	128° 05' 52" 25	786
5754	2017.9.17	Hancongou	Mixed broadleaf-conifer forest	Y Zou	42° 24' 11" 92	128° 05' 53" 34	787
5755	2017.9.17	Hancongou	Mixed broadleaf-conifer forest	Y Zou	42° 24' 08" 40	128° 05' 51" 38	809
5756	2017.9.17	Hancongou	Mixed broadleaf-conifer forest	Y Zou	42° 24' 06" 81	128° 05' 54" 86	768
5757	2017.9.18	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou	42° 06' 26" 88	128° 05' 38" 72	1430

5758	2017.9.18	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou	42° 06' 27" 41	128° 05' 37" 56	1403
5759	2017.9.18	Changbai Mountain Nature Reserve	Coniferous forest	Y Zou	42° 06' 25" 54	128° 05' 34" 13	1438
5760	2017.9.18	Changbai Mountain Nature Reserve	Alpine birch forest	Y Zou	42° 03' 30" 74	128° 03' 29" 04	1759

Table S2. NCBI GenBank accession information for sequences of all dictyostelids and an outgroup (*Physarum polycephalum*) included in the SSU phylogenetic analysis. Newly generated sequences are indicated with asterisks.

Taxon	Isolate no./ Strain no.	Accession no.	Gene
<i>Physarum polycephalum</i>	CL	X13160.1	SSU
<i>Cavenderia fasciculata</i> *	5754-2wang-23 (HMJAU MR313)	MW660750	SSU
<i>C. fasciculata</i> *	5259-1-23 (HMJAU MR313)	MW660751	SSU
<i>C. basinodulosa</i>	Mad5-1A	MN338955.1	SSU
<i>C. canoespora</i>	Mad14-3C	MN338956.1	SSU
<i>C. protodigitata</i>	TH18BA	MH745572.1	SSU
<i>C. aureostabilis</i>	TH10B	MH745571.1	SSU
<i>C. multistipes</i>	UK26b	AM168070.1	SSU
<i>C. deminutiva</i>	MexM19A	AM168092.1	SSU
<i>C. stellata</i>	SAB7B	AM168081.1	SSU
<i>C. mexicana</i>	MexTF4B1	AM168089.1	SSU
<i>C. bifurcata</i>	UK5	AM168084.1	SSU
<i>C. granulophora</i>	CHII-4	AM168072.1	SSU
<i>C. medusoides</i>	OH592	AM168088.1	SSU
<i>C. aureostipes</i> var. <i>helvetia</i>	HM592	KF662214.1	SSU
<i>C. aureostipes</i>	YA6	AM168083.1	SSU
<i>C. myxobasis</i>	NT2A	HQ141522.1	SSU
<i>C. subdiscoidea</i>	TH1A	HQ141515.1	SSU
<i>C. aureostipes</i>	OH396	KF662201.1	SSU
<i>C. aureostipes</i>	B15A	KF662199.1	SSU
<i>C. pseudoaureostipes</i>	TH39A	HQ141518.1	SSU
<i>C. sp.</i> TH18B	TH18B	HQ141517.1	SSU
<i>C. bhumiboliana</i>	THC11X	HQ141523.1	SSU
<i>C. fasciculata</i>	SH3	AM168087.1	SSU
<i>C. fasciculoidea</i>		GQ496157.1	SSU
<i>C. delicata</i>	TNS-C-226	AM168093.1	SSU
<i>C. fasciculata</i>	SmokOW9A	AM168086.1	SSU
<i>C. sp.</i> TAS30A	TAS30A	HQ141516.1	SSU

<i>C. antarctica</i>	NZ43B	AM168080.1	SSU
<i>C. macrocarpa</i>	MGE2	HQ141519.1	SSU
<i>C. parvispora</i>	OS126	AM168091.1	SSU
<i>C. amphispورا</i>	BM9A	HQ141521.1	SSU
<i>C. microspora</i>	TNS-C-38	AM168090.1	SSU
<i>C. boomerangispora</i>	K26B	HQ141520.1	SSU
<i>C. exigua</i>	TNS-C-199	AM168085.1	SSU
<i>Acytostelium amazonicum</i>	HN1B1	HQ141511.1	SSU
<i>A. subglobosum</i>	LB1	AM168110.1	SSU
<i>A. magnisorum</i>	08A	HQ141513.1	SSU
<i>A. amazonicum</i>	landolt X	HQ141510.1	SSU
<i>A. leptosomum</i>	212rjb	HQ141512.1	SSU
<i>A. serpentarium</i>	SAB3A	AM168113.1	SSU
<i>A. digitatum</i>	OH517	AM168114.1	SSU
<i>A. singulare</i>	FDIB	HQ141514.1	SSU
<i>A. longisorophorum</i>	DB10A	AM168109.1	SSU
<i>A. anastomosans</i>	PP1	AM168115.1	SSU
<i>A. leptosomum</i>	FG12	AM168111.1	SSU
<i>Roostelium ellipticum</i>	AE2	AM168112.1	SSU
<i>Heterostelium pallidum*</i>	5759-1-23 (HMJAU MR314)	MW660748	SSU
<i>H. pallidum*</i>	5759-2-23 (HMJAU MR314)	MW660749	SSU
<i>H. recretum*</i>	5756-1-17 (HMJAU MR315)	MW857293	SSU
<i>H. radiatum</i>	M26B	MN338953.1	SSU
<i>H. multibrachiatum</i>	5916lun	MN752217.1	SSU
<i>H. multibrachiatum</i>	5904lun	MN752218.1	SSU
<i>H. stolonicoideum</i>	K12A	HQ141507.1	SSU
<i>H. versatile</i>	Mad52	MN338954.1	SSU
<i>H. violaceotypum</i>		KP167478.1	SSU
<i>H. pallidum</i>	TNS-C-98	AM168103.1	SSU
<i>H. candidum</i>	bsb6b	HQ141498.1	SSU
<i>H. sp. TH12A</i>	TH12A	HQ141504.1	SSU
<i>H. candidum</i>		AY040337.1	SSU
<i>H. filamentosum</i>	SU-1	AM168100.1	SSU

<i>H. luridum</i>	LR-2	AM168101.1	SSU
<i>H. lapidosum</i>		KP167477.1	SSU
<i>H. pseudocolligatum</i>		KP167474.1	SSU
<i>H. racemiferum</i>		KP167476.1	SSU
<i>H. colligatum</i>	OH538	AM168098.1	SSU
<i>H. tikalense</i>	OH595	AM168106.1	SSU
<i>H. colligatum</i>	HN13C1	HQ141505.1	SSU
<i>H. tikalense</i>	HN1C1	HQ141509.1	SSU
<i>H. plurimicrocystogenum</i>		KP167475.1	SSU
<i>H. pseudoplasmodiomagnum</i>		KP167472.1	SSU
<i>H. unguiferum</i>		KP167473.1	SSU
<i>H. australicum</i>	NB1AP	HQ141508.1	SSU
<i>H. equisetoides</i>	B7JB	AM168099.1	SSU
<i>H. arachnoideum</i>	YA1	AM168102.1	SSU
<i>H. cumulocystum</i>		KP167479.1	SSU
<i>H. ampliverticillatum</i>		KP167480.1	SSU
<i>H. multicystogenum</i>	AS2	HQ141506.1	SSU
<i>H. parvimigratum</i>		KP167483.1	SSU
<i>H. pseudoplasmodiofascium</i>		KP167482.1	SSU
<i>H. migratissimum</i>		KP167481.1	SSU
<i>H. anisocaula</i>	NZ47B	AM168096.1	SSU
<i>H. pseudocandidum</i>	TNS-C-91	AM168107.1	SSU
<i>H. asymmetricum</i>	OH567	AM168097.1	SSU
<i>H. asymmetricum</i>	HN20C	HQ141503.1	SSU
<i>H. sp. Laos3</i>	Laos3	HQ141496.1	SSU
<i>H. pallidum</i>	PN500	AM168104.1	SSU
<i>H. pallidum</i>	PPHU8; ATCC 44421	EU004605.1	SSU
<i>H. tenuissimum</i>	TNS-C-97	AM168105.1	SSU
<i>H. tenuissimum</i>		AY040339.1	SSU
<i>H. gloeosporum</i>	TCK52	AM168074.1	SSU
<i>H. granulosum</i>	MF5A	HQ141502.1	SSU
<i>H. flexuosum</i>	AU4B	HQ141500.1	SSU
<i>H. rotatum</i>	QC2C	HQ141501.1	SSU

<i>H. boreale</i>	BSB10A	HQ141499.1	SSU
<i>H. oculare</i>	oculare	HQ141497.1	SSU
<i>H. oculare</i>	DB4B	AM168079.1	SSU
<i>Speleostelium caveatum</i>	WS695	AM168077.1	SSU
<i>Tieghemostelium menorah</i>	M1	AM168073.1	SSU
<i>T. unicornutum</i>	OH599	JF892725.1	SSU
<i>T. lacteum</i>		AM168045.1	SSU
<i>T. angelicum</i>	38B0	JF892716.1	SSU
<i>T. montium</i>	57a	JF892717.1	SSU
<i>T. dumosum</i>	OH602	JF892722.1	SSU
<i>T. simplex</i>	OH598	JF892720.1	SSU
<i>Hagiwaraea coeruleostipes</i>	CRLC53B	AM168036.1	SSU
<i>Ha. rhizopodium</i>	AusKY-4	AM168063.1	SSU
<i>Ha. radiculata</i>	ML5A	HQ141494.1	SSU
<i>Ha. vinaceofusca</i>	CC4	AM168062.1	SSU
<i>Ha. lavandula</i>	B15	AM168047.1	SSU
<i>Raperostelium stabile</i>	M12A	MN338957.1	SSU
<i>R. minutum</i>	71-2	AM168051.1	SSU
<i>R. ohioense</i>	Okla4C	HQ141493.1	SSU
<i>R. sp. TH14B</i>	TH14B	HQ141491.1	SSU
<i>R. gracile</i>	TNS-C-183	AM168078.1	SSU
<i>R. tenue</i>	PR4	AM168075.1	SSU
<i>R. tenue</i>	PJ6	AM168094.1	SSU
<i>R. filiforme</i>	OH603	JF892724.1	SSU
<i>R. capillare</i>	37A	JF892721.1	SSU
<i>R. maeandriforme</i>	OH604	JF892719.1	SSU
<i>R. reciprocatum</i> var. <i>transitum</i>	OH601	JF892723.1	SSU
<i>R. tenue</i>	Pan52	AM168076.1	SSU
<i>R. reciprocatum</i>	38A	JF892718.1	SSU
<i>R. australe</i>	NZ80B	AM168029.1	SSU
<i>R. sp. TH8C</i>	TH8C	HQ141492.1	SSU
<i>R. monochasioides</i>	HAG653	AM168052.1	SSU
<i>R. potamoides</i>	FP1A	AM168069.1	SSU

<i>R. sp. MR-2008</i>		EU672875.1	SSU
<i>R. ibericum</i>	214rjb	HQ141495.1	SSU
<i>Coremiostelium polycephalum</i>	Landolt #1675 GUAM	HQ141490.1	SSU
<i>Co. polycephalum</i>	MY1-1	AM168056.1	SSU
<i>Co. polycephalum</i>	Landolt #1130 SS3B	HQ141488.1	SSU
<i>Co. polycephalum</i>	Landolt #2132 B-9c	HQ141489.1	SSU
<i>Polysphondylium fuscans</i>	Sweden-11D	JX173877.1	SSU
<i>P. sp. Tibet 10A</i>	Tibet 10A	HQ141487.1	SSU
<i>P. laterosorum</i>	AE4	AM168046.1	SSU
<i>P. violaceum</i>	P6	AM168108.1	SSU
<i>P. sp. Laos4</i>	Laos4	HQ141485.1	SSU
<i>P. patagonicum</i>		GQ496156.1	SSU
<i>P. violaceum</i>	209	HQ141486.1	SSU
<i>Dictyostelium discoideum*</i>	5751-1-23 (HMJAU MR302)	MT125951	SSU
<i>D. discoideum*</i>	5752-3-17 (HMJAU MR302)	MT125952	SSU
<i>D. mucoroides*</i>	5035-23 (HMJAU MR303)	MW660746	SSU
<i>D. mucoroides*</i>	5735-3-23 (HMJAU MR303)	MW660747	SSU
<i>D. robusticaule*</i>	5729-huang-2021 (HMJAU MR305)	MW931856	SSU
<i>D. robusticaule*</i>	5729-bai-2021 (HMJAU MR305)	MW931857	SSU
<i>D. barbarae</i>	1-5	MK322959.1	SSU
<i>D. insulinativitatis</i>		MK322958.1	SSU
<i>D. multiforme</i>	4009	MG490371.1	SSU
<i>D. multiforme</i>	4007	MG490370.1	SSU
<i>D. minimum</i>		MG490369.1	SSU
<i>D. gargantum</i>		GQ496161.1	SSU
<i>D. robustum</i>	TNS-C-219	AM168064.1	SSU
<i>D. brunneum</i>	WS700	AM168031.1	SSU
<i>D. giganteum</i>	WS589	AM168042.1	SSU
<i>D. sp. Laos1</i>	Laos1	HQ141483.1	SSU
<i>D. purpureum</i> var. <i>pseudosessile</i>	MR273 (4446)	MH280023.1	SSU
<i>D. purpureum</i>	QSpu1	FJ424829.1	17S ribosomal RNA gene, internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence
<i>D. purpureum</i>	QSpu2	FJ424839.1	17S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete

			sequence; and 26S ribosomal RNA gene, partial sequence
<i>D. purpureum</i>	QSpu23	FJ424832.1	7S ribosomal RNA gene, internal transcribed spacer 1, 5.8S ribosomal RNA gene, internal transcribed spacer 2, and 26S ribosomal RNA gene, complete sequence
<i>D. purpureum</i>	QSpu28	FJ424836.1	17S ribosomal RNA gene, internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence
<i>D. purpureum</i>		DQ340386.1	17S ribosomal RNA, 5.8S ribosomal RNA, 26S ribosomal RNA, and 5S ribosomal RNA genes, complete sequence
<i>D. purpureum</i>	QSpu4	FJ424826.1	17S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence
<i>D. purpureum</i>		AY040335.1	SSU
<i>D. purpureum</i>	QSpu36	FJ424828.1	17S ribosomal RNA gene, internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence
<i>D. purpureum</i>	WS321	AM168061.1	SSU
<i>D. purpureum</i>	cavender	HQ141481.1	SSU
<i>D. septentrionale</i>	IY49	AM168066.1	SSU
<i>D. septentrionale</i>	AK2	AM168067.1	SSU
<i>D. purpureum</i>	C143	AM168060.1	SSU
<i>D. discoideum</i>	NC4	AM168071.1	SSU
<i>D. dimigraformum</i>	AR5b	AM168038.1	SSU
<i>D. citrinum</i>	OH494	AM168033.1	SSU
<i>D. discoideum</i>	V34	AM168039.1	SSU
<i>D. firmibasis</i>	TNS-C-14	AM168041.1	SSU
<i>D. intermedium</i>	PJ11	AM168044.1	SSU
<i>D. sp. Laos5</i>	Laos5	HQ141484.1	SSU
<i>D. crassicaule</i>	93HO-33	AM168037.1	SSU
<i>D. aureocephalum</i>	TNS-C-180	AM167876.1	SSU
<i>D. aureum</i>	SL1	AM168028.1	SSU
<i>D. leptosomum</i>	NZN49A	HQ141480.1	SSU
<i>D. capitatum</i>	91HO-50	AM168032.1	SSU
<i>D. pseudobrefeldianum</i>	91HO-8	AM168059.1	SSU
<i>D. austroandinum</i>		GQ496158.1	SSU
<i>D. leptosomopsis</i>	Araucaria 1	HM159992.1	SSU
<i>D. mucoroides</i>	S28b	AM168054.1	SSU
<i>D. brefeldianum</i>	TNS-C-115	AM168030.1	SSU

<i>D. mucoroides</i>	sweden 20	HQ141482.1	SSU
<i>D. macrocephalum</i>	B33	AM168049.1	SSU
<i>D. medium</i>	TNS-C-205	AM168050.1	SSU
<i>D. mucoroides</i> var. <i>stoloniferum</i>	FOII-1	AM168055.1	SSU
<i>D. rosarium</i>	M45	AM168065.1	SSU
<i>D. sphaerocephalum</i>	GR11	AM168068.1	SSU
<i>D. mucoroides</i>	TNS-C-114	AM168053.1	SSU
<i>D. quercibrachium</i>	NZ201B	HQ141479.1	SSU
<i>D. clavatum</i>	TNS-C-189	AM168034.1	SSU
<i>D. clavatum</i>	TNS-C-220	AM168035.1	SSU
<i>D. longosporum</i>	TNS-C-109	AM168048.1	SSU
<i>D. ammophilum</i>	KBK4A	HQ141478.1	SSU
<i>D. valdivianum</i>		GQ496155.1	SSU
<i>D. implicatum</i>	93HO-1	AM168043.1	SSU
<i>D. chordatum</i>		GQ496159.1	SSU
<i>D. barbibus</i>	Sweden-4R	JX173878.1	SSU
<i>Synstelium polycarpum</i>	VE1b	AM168057.1	SSU
<i>S. polycarpum</i>	OhioWILDS	AM168058.1	SSU

Table S3. NCBI GenBank accession information for sequences of all dictyostelids and an outgroup (*Physarum polycephalum*) included in the *atp1* phylogenetic analysis. Newly generated sequences are indicated with asterisks.

Taxon	Isolate no./ Strain no.	Accession no.	Gene
<i>Physarum polycephalum</i>		NC_002508.1	mitochondrion, complete genome
<i>Dictyostelium discoideum</i> *	5751-1-23 (HMJAU MR302)	MZ318395	<i>atp1</i>
<i>D. discoideum</i> *	5752-3-17 (HMJAU MR302)	MZ318394	<i>atp1</i>
<i>D. mucoroides</i> *	5735-3-23 (HMJAU MR303)	MZ318393	<i>atp1</i>
<i>D. robusticaule</i> *	5729-huang-2021 (HMJAU MR305)	MZ318392	<i>atp1</i>
<i>D. robusticaule</i> *	5729-bai-2021 (HMJAU MR305)	MZ318391	<i>atp1</i>
<i>D. sp.</i> TAS30A	TAS30A	KF662068.1	<i>atp1</i>
<i>D. discoideum</i>	AX3	AB000109.1	mitochondrial DNA, complete genome
<i>D. citrinum</i>		DQ336395.4	mitochondrion, complete genome
<i>Heterostelium pallidum</i> *	5759-1-23 (HMJAU MR314)	MZ318388	<i>atp1</i>
<i>H. pallidum</i> *	5759-2-23 (HMJAU MR314)	MZ318387	<i>atp1</i>
<i>H. recretum</i> *	5756-1-17 (HMJAU MR315)	MZ318386	<i>atp1</i>
<i>H. pallidum</i>	CK8	AY700145.1	mitochondrion DNA, complete sequence
<i>H. pallidum</i>	PN500	EU275726.1	mitochondrion, complete genome
<i>Cavenderia fasciculata</i> *	5754-2wang-23 (HMJAU MR313)	MZ318390	<i>atp1</i>
<i>C. fasciculata</i> *	5259-1-23 (HMJAU MR313)	MZ318389	<i>atp1</i>
<i>C. granulophora</i>	CH11-4	KF662075.1	<i>atp1</i>
<i>C. sp.</i> TH18D	TH18D	KF662113.1	<i>atp1</i>
<i>C. aureostipes</i>	AU7B	KF662112.1	<i>atp1</i>
<i>C. sp.</i> TH1A	TH1A	KF662123.1	<i>atp1</i>
<i>C. aureostipes</i>	B15A	KF662116.1	<i>atp1</i>
<i>C. sp.</i> TH39A	TH39A	KF662117.1	<i>atp1</i>
<i>C. myxobasis</i>	NT2A	KF662122.1	<i>atp1</i>
<i>C. aureostipes</i>	Thai2C1	KF662118.1	<i>atp1</i>
<i>C. stellata</i>	SAB7B	KF662110.1	<i>atp1</i>
<i>C. aureostipes</i>	OH396	KF662120.1	<i>atp1</i>
<i>C. aureostipes</i> var. <i>helvetia</i>	HM594	KF662109.1	<i>atp1</i>

<i>C. aureostipes</i> var. <i>helvetia</i>	52A1	KF662100.1	<i>atp1</i>
<i>C. aureostipes</i> var. <i>helvetia</i>	HM593	KF662099.1	<i>atp1</i>
<i>C. aureostipes</i>	CR6B1	KF662115.1	<i>atp1</i>
<i>C. bifurcata</i>	UK5	KF662111.1	<i>atp1</i>
<i>C. fasciculata</i>	SH3	EU275727.1	mitochondrion, complete genome
<i>C. aureostipes</i>	KAL7A	KF662084.1	<i>atp1</i>
<i>C. aureostipes</i>	Chile10B1	KF662082.1	<i>atp1</i>
<i>C. aureostipes</i>	GSE7B	KF662083.1	<i>atp1</i>
<i>C. mexicana</i>	TF4B1	KF662073.1	<i>atp1</i>
<i>C. delicata</i>	TNS 266	KF662080.1	<i>atp1</i>
<i>C. aureostipes</i>	BP7B	KF662127.1	<i>atp1</i>
<i>C. aureostipes</i>	Got5B4	KF662094.1	<i>atp1</i>
<i>C. antarctica</i>	NZ43B	KF662081.1	<i>atp1</i>
<i>C. aureostipes</i>	LR2	KF662124.1	<i>atp1</i>
<i>C. aureostipes</i>	AKL43C	KF662095.1	<i>atp1</i>
<i>C. aureostipes</i>	KP3	KF662130.1	<i>atp1</i>
<i>C. aureostipes</i>	Got9A1	KF662092.1	<i>atp1</i>
<i>C. fasciculata</i>	HM595	KF662076.1	<i>atp1</i>
<i>C. aureostipes</i>	I3	KF662133.1	<i>atp1</i>
<i>C. aureostipes</i>	OH110 BW6	KF662131.1	<i>atp1</i>
<i>C. fasciculata</i>	Nor84E	KF662077.1	<i>atp1</i>
<i>C. aureostipes</i>	OH438	KF662088.1	<i>atp1</i>
<i>C. medusoides</i>	OH592	KF662074.1	<i>atp1</i>
<i>C. aureostipes</i> var. <i>helvetia</i>	HM592	KF662098.1	<i>atp1</i>
<i>C. exigua</i>	KP94	KF662096.1	<i>atp1</i>
<i>C. parvispora</i>	OS126	KF662071.1	<i>atp1</i>
<i>C. microspora</i>	Hagiwara143	KF662072.1	<i>atp1</i>

Table S4. Dictyostelids have been reported in Taiwan and on Changbai Mountain.

Order	Family	Genus	Taiwan	References	Changbai Mountain	References
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>Dictyostelium aureostipes</i> var. <i>aureostipes</i>	Hagiwara et al. 1992(1)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>D. brefeldianum</i>	Yeh & Chien 1983(2)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>D. clavatum</i>	Fan et al. 2002(3)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>			<i>D. discoideum</i>	This paper
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>			<i>D. firmibasis</i>	An et al. 2018(4)
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>D. giganteum</i>	Yeh & Chien 1983(2)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>D. macrocephalum</i>	Hagiwara et al. 1985(5)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>D. magnum</i>	Hagiwara et al. 1992(1)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>			<i>D. mucoroides</i>	This paper
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>	<i>D. purpureum</i>	Hagiwara et al. 1992(1)		
Dictyosteliales	Dictyosteliaceae	<i>Dictyostelium</i>			<i>D. robusticaule</i>	This paper
Dictyosteliales	Dictyosteliaceae	<i>Polysphondylium</i>	<i>Polysphondylium violaceum</i>	Yeh & Chien 1983(2)	<i>P. violaceum</i>	Liu & Li 2014(6)
Dictyosteliales		<i>Coremiostelium</i>	<i>Coremiostelium polycephalum</i>	Hagiwara et al. 1992(1)		
Dictyosteliales	Raperosteliaceae	<i>Raperostelium</i>	<i>Raperostelium minutum</i>	Yeh 2003(7)		
Dictyosteliales	Raperosteliaceae	<i>Raperostelium</i>	<i>R. monochasioides</i>	Hagiwara et al. 1992(1)		
Dictyosteliales	Raperosteliaceae	<i>Hagiwaraea</i>	<i>Hagiwaraea coeruleostipes</i>	Fan & Yeh 2001(8)		
Dictyosteliales	Raperosteliaceae	<i>Hagiwaraea</i>	<i>Ha. lavandula</i>	Hagiwara et al. 1992(1)		
Dictyosteliales	Raperosteliaceae	<i>Hagiwaraea</i>	<i>Ha. rhizopodium</i>	Hagiwara et al. 1992(1)		
Acytosteliales	Acytosteliaceae	<i>Heterostelium</i>	<i>Heterostelium arachnoideum</i>	Liu et al. 2019(9)		
Acytosteliales	Acytosteliaceae	<i>Heterostelium</i>			<i>H. candidum</i>	He & Li 2008(10)
Acytosteliales	Acytosteliaceae	<i>Heterostelium</i>	<i>H. pallidum</i>	Yeh & Chien 1983(2)	<i>H. pallidum</i>	This paper
Acytosteliales	Acytosteliaceae	<i>Heterostelium</i>	<i>H. pseudocandidum</i>	Lin & Yeh 1999(11)		
Acytosteliales	Acytosteliaceae	<i>Heterostelium</i>			<i>H. recretum</i>	This paper
Acytosteliales	Acytosteliaceae	<i>Acytostelium</i>	<i>Acytostelium leptosomum</i>	Hagiwara et al. 1992(1)		
Acytosteliales	Cavenderiaceae	<i>Cavenderia</i>	<i>Cavenderia delicata</i>	Hsu et al. 2001(12)		
Acytosteliales	Cavenderiaceae	<i>Cavenderia</i>	<i>C. exigua</i>	Yeh & Chen 2004(13)		
Acytosteliales	Cavenderiaceae	<i>Cavenderia</i>			<i>C. fasciculata</i>	This paper

Table S5. Dictyostelids have been reported with habitat on Changbai Mountain.

Changbai Mountain	References	Habitat
<i>Dictyostelium discoideum</i>	This paper	Broadleaf forest
<i>D. firmibasis</i>	An et al. 2018(4)	Mixed broadleaf-conifer forest
<i>D. mucoroides</i>	This paper	Tundra
<i>D. mucoroides</i>	This paper	Mixed broadleaf-conifer forest
<i>D. robusticaule</i>	This paper	Mixed broadleaf-conifer forest
<i>Polysphondylium violaceum</i>	Liu & Li 2014(6)	Mixed broadleaf-conifer forest
<i>Heterostelium candidum</i>	He & Li 2008a(10)	Forest
<i>H. pallidum</i>	This paper	Coniferous forest
<i>H. recretum</i>	This paper	Mixed broadleaf-conifer forest
<i>Cavenderia fasciculata</i>	This paper	Mixed broadleaf-conifer forest
<i>C. fasciculata</i>	This paper	Coniferous forest

Text S1. Alignment of SSU sequences

>MN338956.1_Cavenderia_canoespora_Mad14_3C
-----TATAAGTCTCTTG-TACGGCTA-GA---CTGCAGACGGCTCATT--ACAA--CG
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TTTCTGCGATGGACATTTA-GCTATTC--GA-CCAACCC--CG-CAA-GGGAACG--GTT
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CGATGGCTTTGGGGCAACCCAGG--CCAATCAGAATAAGTACACATTAATCCCTTAA
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----TGAAGA--TGT-GGT-CGGCTCAAACAC-TGTAGGTGATGATA-TTGG----TAG
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CAAGGTA--GG-CCT-TT---ATAGGGTAGATACACAGT-GCATGGCATTGTGGAACAAG
GCAT--CTCGCGCTTAGTTGGT-GGGCC-----GCGGGGCAATGATTAATAGGGAG
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GCATATACTAATGTTGTTGAGTTAAAA-CGC-TCGTAGCT----GAATATCTTTT--G
AG-CTAC-----TATCGACT-ACAT-TCC----TTCAA-A-G----GTCGCAAGACT-GA
----TGAAGA--TGT-GGT-CGGCTCAAACAC-TGTAGGTGATGATA-TTGG----TAG
CAATA-CTAAT--AT-----CATAA---TCGACTGTGCATAAAA-CCTTGATGCT
CAAGGTA--GG-CCT-TT---ATAGGGTAGATACACAGT-GCATGGCATTGTGGAACAAG
GCAT--CTCGCGCTTAGTTGGT-GGGCC-----GCGGGGCAATGATTAATAGGGAG
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GTTCTTAG-TTGGTGGAGTGATTTGTGAGGTCATTTCCGGTAACGGACGAGACCTCGACC
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>HQ141517.1 Cavenderia sp. TH18B

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>HQ141522.1 *Cavenderia myxobasis* NT2A

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GTCACTGCCCTATCAACT--CGATGGTACGGTATTGGCCTACCATGGTTGCAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTGCCACTTATACGGA
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AAATGCTTTTCAATTT-TTTTGAGA--GCAATTTGAATAAGTACAACCTTAAATCGCTTAG
CT-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCAGCTCAA-TA
GCGTATACTAAATTTGTTGCAAGTAAAA-CGC-TCGTAGTTAAAGTAAAGGTTACTTG-G
AT-AAAC----AAGAATAATTTTTTTA--GAATTATT-----T-----AACGAATTT-
----TTAATTTTTCAT-AGTTAAATTTTCA-CCAAGTTC-CTTATTTTGG-ACT---
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TAAAGCA--AG-C----T----ATCAGCTTGATCAATGCAGCATGGTATAGAAAAATATG
ACAC---TAAGTATTTTGTGGT-TAATA----C-TCTAGTGAATGATTAATAGGGAA
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ATCA--T-CGCA--TGT-G---GTAATTTTCGTATAGATTGATGTGTACCTTGGAAAAA
TAA--ATTTTTTCATAAACATTA---AA-CTTCTTAGAATGACTACCT-ACCTCAAGTGG
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GCGTTACAATGTATAAAAGAAAAAGGC----TTCC-----GGAGCCGT-AAG---G-
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>HQ141511.1_Acytostelium_amazonicum_HN1B1

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CAAAGCA--AG-C---G---TAAAGCTTGATCAATGCAGCATGGTATAGAGAAACACG
ACAC---TAAATATTTTGTGGTT--AATA-----TTCTAGTGTAATGGTTAATAGGGAA
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CAGTAAATCGGGGCTAATACATATAAAA-CG-GAAGG-CGATTGGG----CAACCAAG-AG
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>HQ141514.1 *Acytostelium_singulare* FDIB

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>AM168114.1 *Acytostelium_digitatum* OH517

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>AM168113.1 *Acytostelium serpentinum* SAB3A

TCTAAG-TATAAACTTTAA-TACGGTGAAA----CTGCGGACGGCTCATT--ACAA--CA
---GT---GATAAAGTA-CAGAACTTTCGC-GCGTA----AG-CGTCTTGGATAACCG
CAGTAAATCGGGGCTAATACATATAAAA-CG-AAAGA-TTAATAGTTT--CTACTGTT-GA
T-TTTGCGATTGTT---A-GTCATTT-CAA---A-ACTAGCCTTTCGGAGTTAGTGGT
GAATCCGAACAATATTGCTGATCGA-A-----ATT-TATTT-CGACGAGTTCTATCT
GTCCTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAACT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAC
TAAATTTCTTTCCATTT-TATGGAGG--AAAATTGGAATAAGTACAACGTAATAATAGCTTAA
CC-AAAGTAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCGTATACTAAATTTGTTGCAAGTAAAA-AGC-TCGTAGTTCAGATAAAGGTTGTTTCG-G
GT-CAAG-----GTG-TCTTTA---T-AAAATAAGCATCTG
ATT-CTA-TCTAATTTTATAGTC-TAGTATCA-CCGACAAC-TTTATTTAGGG-TCT---
---GTTATCAATTTATT--GGTGATTT-GATCTATCCACTGTGAGAAAA-TTGTAGTGTT
TAAAGCA--AG-C---GT---TTCTGCTTGTCAATGCAGCATGGTATGGTAAAAATAGG
ACAC---TTAACAATT-GTTGGTTT-TTT----GTTGAAGTGTAATGACTAATAGGGAA
GGGCGGATCGTACATATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTGATAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAACTATAAACTATGTCGACCAGGGATCGGATA
GATTAA-ATTTCTAACTCTAT-TCGGAACCTT-GTGAGAAATCAT-GAGTGTGTTGGACTC
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AGTGGAG-CCTGCGCTTAATTT-GACTCAACTCGGGAAA-ACCTACCAAGCTCAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGTGATTTGTCTGGTCAATTCCGATAACGGACGAGACGTCTACT
TACTAAATAGTAGGATTTAT-GGGTCAATATGTGGGATAGGTCTT-AGGGGTTTGTGTA--T
ATAT--TTC-CAAAAGATT---GTATGCTACCCT--ATGGCTGTGTAGCAGCACTCTT
TAA--ATTCGAG-TAAAAAACTA---AA-CTTCTTAGAAGGACTACCC-ACCTCAAGTGG
GGGG-AAGTCGGACGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGCTACAATGTAGAGATGAAAAAGGT----TTCCG-----GGTACCGG-AAG---GT
ATC-GGTAATCATTTGAATTAATGACTTACGTGATAGGGATTG-ATCTTTGTAATTATCGATCA
TCAACGAGGAATTCCTTGTAAAGCGTAAGTCATTACCTTACGCTGAATAGGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAACGATTAGGTAAAACTGACGGACT---
-TAG---ACCTA--CCTTTTGG-CATGG-----TC-GGG-GAAG--TTA
T-T-TAAATCT--C----ATT--GTTT

>AM168112.1 *Rostrostelium ellipticum* AE2

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CCTTTGCAATTAATTT-TA-GCT-TTTGCT-----ACCAACCTTTAGGAGTTTGTGTT
GAATCCGAATAATTTGCTGATCGGAA-----TTT-TA-TTCCGACAAGTTCAAAGT
GTCCTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
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TGATGCCTTTCCATTT-TATGGAGG--GTAATTAGAATAAGTACAATTTAAATCGCTTAG
CC-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCAAGTAAAA-AGC-TCGTAGTTTGAATGAAATTTTTCG--
----AG---GG-ATTTT-GATTTTACAATCTGAACCC--T-GT-CT-TAAATTGCTT
A-CGGG--TTAATTTTGA--C--TGT-----CTCGATAATTTCAATTTTG-CCT--T-
T-A---GGCATT-ATG--TCTATTA--GGTAGGTCCACTGTGAGAAAA-TTGTGGTGT
TAAAGCG--GA-C---GT---TTTTGTTTTCATTGCAGCATGGTATGGTAAAAACAAG
ACAC---TGTTCACT-GTTGGTTG-TGAA-----T-CAGTGAATGACTAATAGGGAA
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TACTAAATAGTGGTATTTATTTGTCGTTATGGGGGATAGTTAGT-TGGCGAGAGTAGT-
AGGT--TTTCGGA---TTTA---TTATTTCT-CGTTGAT-TGGTGTGTACCTCGATAAGA
TAG--ATTACTTCTAAAAA--TA---A--CTTCTTAGAGGGACTACCC-ACCTCAAGTGG
GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGG
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>KP167477.1 *Heterostelium lapidosum*
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--AAC-GGATCT--GT---AAC-C-TGG---TTGAT-----CC-----
-----TGCC-
>KP167474.1 *Heterostelium pseudocolligatum*
-----ACGGTGGACACCTCGGCAGACGGGACAC---AGCA--G-
---GTTATAGATAAACTA-AAGAACCTTTCGC-GCTTC----GGCGTCTT-GGATAACCG
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CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAAAAAG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGTAATGACTAATAGGGAA
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GCGTTACAATGTAGACGAGAAAAAGGT----CTCC-----GGCACCGA-AAG---GT
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-----TGCC-

>HQ141505.1_Heterostelium_colligatum HN13C1

TCTAAG-TATAA-CCTTTA-TACGGTGAAC----CTGCAGAAGGATCAACT-ACAGAGCA
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TTGTACACACCGCCCGTCTGCTACCGATCGAACGATTAGGTA AAAACTGACAGACTG--
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-CA-GAAGGAT--C---A---GCC-

>HQ141509.1_Heterostelium_tikalense HN1C1

TCTAAG-TATAA-CCTTTA-TACGGTGAAC----CTGCAGAAGGATCAACT-ACGAG-CA
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CAGTAAATCGGGGCTAATACATGTA AAA-CG-AGAGGATGAGCGGG----CAACTGCG-AG
TCTTTGCGATTGTT---A-GCT-ATT-CA---CACACCAACCTCTTCGGAGTTTGTGGT
GAGTCCGAACAATATTGCTGATCGGAA-----ATT-TATTTCCGACAAGTTCTTTGT
GTCACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCACTTCTATGGA
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CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAAATATG
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GTC-GGTAATCATATGAATTGTCTACGTAATGGGGATTA-ATTTTTGTAATTATCGATTA
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-CA-GAAGGAT--C---A-----

>KP167476.1 *Heterostelium racemiferum*

TCTAAG-TATAA-CCTTTA-TACGGTGAAC----CTGCAGAAAGGCTCATT--ACAA--CA
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CAGTAAATCGGGGCTAATACATGTAAA-CG-AGAGGATGAGCGGG----CAACTGCG-AG
TCTTTGCGATTGTT---A-GCT-ATT-CA---CACACCAACCTCTTCGGAGTTTGTGGT
GAGTCCGAACAATATTGCTGATCGGAA-----ATT-TATTTCCGACAAGTTCTTTGT
GTCACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCGGAGAGGGAGCCTGAGAAAATGGCTACCACCTCTATGGA
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>AM168098.1 *Heterostelium colligatum* OH538

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GT-TTAG--CAGGCATTGTCGCCTT--CGGGTTGGCA--A-TCGT-TTGTAAGCGCTAT
AATGGAATTTTCA-CTTTCA-TTATATGTGTTA-CCAAGAAATTTCCAACCTGC-CCA--TG
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>KP167473.1 *Heterostelium unguiferum*

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>HQ141504.1 *Heterostelium* sp. TH12A

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>AY040337.1 *Heterostelium candidum*

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>AM168100.1 *Heterostelium filamentosum* SU_1

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TAG--GTACTAACTAAAAAA-TA---AA-CTTCTTAGAGGGACTACCT-ACCTCAAGTGG
GGGG-GAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGACTAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATAGTCTACGTAATGGGGATTA-ATTTTTGTAATTATCGATTA
TCAACGAGGAATTCCTTGTAAAGCGTAAATCATTACTTTACGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAACGATTAGGTAAAAATGACGGACTG--
--AAT-GACTTC--T---CGC-A-AGG-GATTGTC-----GTT-TGG-AAAG--TTA
-GT-TAAATCT--C---ATT--GTTT

>AM168101.1 *Heterostelium luridum* LR_2

TCTAAG-TATAA-CCTTTA-TACGGTGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTA-AAGAACTTTCGC-GCTTC-----GGCGTCTT-GGATAACCG
CAGTAAATCGGGGCTAATACATGTAAA-CG-AGAGGATGAGCGGG---CAACCGCG-AG
TCTTTGCGATTGTT---A-GCT-TTTACA---CACACCAGCCTCCTCGGAGATTGTGGT
GAGTCCGAACAATATTGCTGATCGGAA-----ATT-TATTTCGACGAGTCTTTGT
GTCACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCACCTTCTATGGA
AGGCAGCAGGCGCGCAAATT-ACCTAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTACCATTT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG

CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCGTATACTAAATTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TTAG--CGTTCATTATTGCCT-CAC-GGT-AATA--A-CCGT-TCGTAAGCTTTT-T
AATCGGGACTC--GTTTCG-TT-TAAGAGTTA-CCAAGAAATTTCTATATGC-CCA--TG
TCAACTGGTAACAGTTG--TCTGATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTTCGCTTGTTCATGCAGCATGGTATAGTAAAAATAAG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT--AGTGAATGACTAATAGGGAA
GGGCGGGGCCGTTCAATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTGCGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACCATAAACTATGTGACCCAGGGATTGGACG
GATAAT-TTTTTAAAAAAGTCTGCTCAGAACCTT-GTGAGAAATCAT-GAGTGTGGACTC
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AGTGGAA-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTCAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGTGAATTTGTCTGGTCAATTCCGATAACGGACGAGACCTTACC
TACTAAATAGTGGTATTTATTTGGTCAACATGGAAGATAGTCATT-TGGTGTGGC-GTT
AGGT--GTCAAA--GCTTA--GC-GTTCTTCATTGAG-TGGTGTGATTTTCGATCAGA
TAG--GTACTAACTAAAAAA-TA---AA-CTTCTTAGAGGGACTACCT-ACCTCAAGTGG
GGG-AAGTCAGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGATGAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATAGTCTACGTAATGGGGATTA-ATTTTTGTAATTATCGATTA
TCAACGAGGAATTCCTTGTAAAGCGTAAATCATTACTTTACGCTGAATATGTCCTGCCC
TTGTACACACCGCCCGTCTCCTACCGATCGAACGATTAGGTAATAACTGACGGACTG--
--AAT-GACTTC-T---CGC-A-AGG-GATTGTC-----GTT-TGG-AAAG--TTA
-GT-TAAATCT--C---ATT--GTTT

>MN338953.1 *Heterostelium radiatum*_M26B

TCTAAG-TATAA-CCTTTA-TACGGTGAA----CTG-AGAGGGACACGC---CGG--CA
---GT---AGATAAACTA-AAGAACTTTCGC-GCTTC-----GGCGTCTT-GGATAACCG
CAGTAAATCGGGGCTAATACATATAAAA-CG-AGAGGATGAGCAGG----CAACTGCG-AG
TCTTTGCGATTGTT---A-GCTATCTTTT--CACACCAACCTCCTCGGAGTTTGTGGT
GAATCCGAACAATATGCTGATCGAAA-----ATT-TATTTTCGACGAGTTCCTTTGT
GTCACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCCATAT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGTCCAA-TA
GCGTATACTAAATTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TTAAGCCAGTTATAGTAGCTTT--CGGGTATTATAA-T--TCGGTAAAGCTCTTG
AGTGGATTTA-TTTTTCA-CTTTTAGAGTTA-CCAAGGAATTTCCAAGTGC-CCA--TG
TAGACTGGCAACAGTTT--AC-AATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTAAGCTTGTCAATGCAGCATGGTATAGTAAAATATG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGAATGACTAATAGGGAA
GGGCGGGGCCGTTCAATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTGCGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACCATAAACTATGTGACCCAGGGATTGGACG
GATAAT-TTTTTAAAAAAGTCTGCTCAGAACCTT-GTGAGAAATCAT-GAGTGTGGACTC
TGGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAA-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTCAGATAT
AATAAGGATTGACAGA-CTAATAAGATCTTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGTGAATTTGTCTGGTCAATTCCGATAACGGACGAGACCTTACC
TGCTAACTAGTGGTATTTATTTGGTCAATATGGAAGATAGTCATT-TGGTGTGGT-GTT
AGGT--GTCAAA--GCTTA--GC-ATTCTTCATTGAG-TGGTGTGATTTCTGGTCAAG
TAG--GTACTAACTAAAAAA-TA---AA-CTTCTTAGAGGGACTACCT-ACCTCAAGTGG
GGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGATGAGAAAAAGGT----TTCC-----GACGTCGA-AAG---GC
GCC-GGTAATCAATTGAATGTCTACGTAATGGGGATTA-ATTTTTGTAATTATCGATTA
TCAACGAGGAATTCCTTGTAAAGCGTAAATCATTACTTTGCGCTGAATATGTCCTGCCC
TTGTACACACCGCCCGTCTCCTACCGATCGAACGATTAGGTAATAACTGACGGATTA--
--GAT-GATTTTC-TGGTGAAC-CCTGG-TTTGGAT-----TCC---CG-C--CCGTTG
--T-T---C---C---ATTATGCC-

>KP167478.1 *Heterostelium violaceotypum*

TCTAAG-TATAA-CCTTTA-TACGGTGAAA----CTGCAGACGGCTCAAT--ACAA--CA
---GT---GATAAACTA-AAGAACTTTCGC-GCTTC-----GGCGTCTT-GGATAACCG
CAGTAAATCGGGGCTAATACATATAAAA-CG-AGAGGATGAGCAGG----CAACTGCG-AG
TCTTTGCGATTGTT---A-GCTATCTTTT--CACACCAACCTCCTCGGAGTTTGTGGT
GAATCCGAACAATATGCTGATCGAAA-----ATT-TATTTTCGACGAGTTCCTTTGT
GTCACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCCATAT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGTCCAA-TA
GCGTATACTAAATTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TAAGCCAGTCATAGTAGCTTT--CGGGTATTATGG-T--TCGGTAAAGCTTTTG

AGTGGATTTTA-TTTTTCA-CTTTTAAAGTTA-CCAAGGAATTTCCAACCTGC-CCA--TG
TAGACTGGCAACAGTTT--AC-AATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTACGTTTGTTCATGCAGCATGGTATAGTAAAAATATG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGTAACTACTAATAGGGAA
GGGCGGGGCCGTTTCATATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTCCGGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
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GATAAT-TTTTTAAAAAAGTCTCGCTCAGAACCTT-GTGAGAAATCAT-GAGTGTGGACTC
TGGGGGGAGTATGGTGCAGAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAA-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTCAGATAT
AATAAGGATTGACAGG-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGTGAATTGTCTGGTCAATTCCGATAACGGACGAGACCTTACC
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AGGT--GTCAAA--GCTTG--GC-ATTCTTATTGAG-TGGTGTGATTCTGGTCAGA
TAG--GTACTAACTAAAAACATA---A--CTTCT-AGAGGGACTACC--ACCTCA-GTGG
GGGG-AA-TCG-AAGC-ATAACAGG-CTGTGA-GCCCT-AAA-ACCTT-GG-CTGC-CCC
GCGT-ACAATG-AGATGA-AAAAAGG----TTCC-----GAC-TCGA-A-G---GT
GCC-G-TA-TCAAT-GGATTG-CTACG-AATGGGGAT-A-ATTTT-G-AA-TATCGAT-A
TCA-CGAGGA-TTC-TTG-AAGCGTAA-----

>HQ141507.1_Heterostelium_stolonicoideum_K12A

TCTAAG-TATAA-CCTTTA-TACGGTGAAC---CTGCAGAAAGGATCAACTCACGG--CT
--TGT---GATAAACTA-AAGAACTTCCGC-GCTTC-----GGCGTCTT-GGATAACCG
CAGTAAATCGGGGCTAATACATATAAA-CG-AGAGGGTGAGCGGG---CAACTGCG-AA
CCTTTGCGATTGTT---A-GCTATCA-CT--CA--CCAACCTCTTCGGAGTTTGTGGT
GAATCCGAACAATATTGCTGATCGAAA-----ATT-TATTTTCGACGAGTTCTTTGT
GTCCTGCCCCTAACAATTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAACT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCCATAT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCGTATACTAAATTTGTTGACGTTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TAAGCCAGTCATAGTAGCTTT--CGGGTATTATGA-T-TTCGGTTAAAGCTTTT
AGTGGATTTTA-TTTTTCA-CTTTTAAAGTTA-CCAAGGGATTCCAACCTGC-CCA--TG
TAAGCTGGCAACAGTTT--AC-AATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTACGTTTGTTCATGCAGCATGGTATAGTAAAAATATG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGTAACTACTAATAGGGAA
GGGCGGGGCCGTTTCATATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTTCGGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
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AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
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TGCTAACTAGTGGTATTTATTTGGTCAATATGGAAGATAGTCATT-TGGTGTGGT-GTC
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GGGG-AAGTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGATGAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATTGTCTACGTAATGGGGATTA-ATTTTGTAAATATCGATTA
TCAACGCGAAATTCCTTGTAAAGCGTAAATCATTACTTTACGCTGAATATGTCCTGCCCT
TTGTACACACCGCCGCTCCTACCGATCGAACGATTAGGTAAAAGTACGCGATTA--
-GAT-GATTTT-CT--AAC-C-TGG---TTGAT-----CCT-GGT-GAACC--TG
-CA-GAAGGAT--C---A---GCC-

>AM168103.1_Heterostelium_pallidum_TNS_C_98

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---GT---GATAAACTA-AAGAACTTCCGC-GCTTC-----GGCGTCTT-GGATAACCG
CAGTAAATCGGGGCTAATACATATAAA-CG-AGAGGGTGAGCGGG---CAACTGCG-AA
CCTTTGCGATTGTT---A-GCTATCTTTT---CA--CCAACCTCTTCGGAGTTTGTGGT
GAATCCGAACAATATTGCTGATCGAAA-----ATT-TATTTTCGACGAGTTCTTTGT
GTCCTGCCCCTAACAATTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAACT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCCATAT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCGTATACTAAATTTGTTGACGTTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TAAGCCAGTCATAGTAGCTTT--CGGGTATTATGA-T-TTCGGTTAAAGCTTTT
AGTGGATTTTA-TTTTTCA-CTTTTAAAGTTA-CCAAGGGATTCCAACCTGC-CCA--TG
TAAGCTGGCAACAGTTT--AC-AATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTACGTTTGTTCATGCAGCATGGTATAGTAAAAATATG

ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGTAATGACTAATAGGGAA
GGCGGGGCGGTTTCATTTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTTCGGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACCATAAACTATGTGACCAGGGATTGGACG
GATAAT-TTTTTAAAAAATCGCTCAGAACCTT-GTGAGAAATCAT-GAGTGTGGACTC
TGGGGGGAGTATGGTTCGAACTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAA-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTCAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
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TGCTAACTAGTGGTATTTATTTGGTCAATATGGAAGATAGTCATT-TGGTGTGGT-GTC
AGG---GTCAAA---CTTG---GC-ATTCTTCATTGAG-TGGTGTGATTCTGGTCAGA
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GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGATGAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATTGCTACGTAATGGGGATTA-ATTTTGTAAATTATCGATTA
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TTGTACACACCGCCCGTCTCTACCATCGAACGATTAGGTAATAACTGACGGATTA--
-GAT-GATTTTCT--CT---CGC-A-AGG-GGTTATC-----GTT-TGA-GAAG--TTA
-GT-TAAATCT--C---ATT--GTTT

>AM168102.1_Heterostelium_arachnoideum_YA1

TCTAAG-TATAA-CCTTTA-TACGGTGAAC---CTGCAGACGGCTCATT--ACAA--CA
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CAGTAAATCGGGGCTAATACATGTAAA-CG-AGAGGATGAGCGGG---CAACTGCG-AG
TCTTTGCGATTGTT---A-GCT-TTTATT---CACACCAACCTCTTCGGAGTTTGTGGT
GAGTCCGAACAATATTGCTGATCGGAA-----ATT-TATTTCCGACGAGTTCTTTGT
GTCACCTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCGGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTATGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCCATTTATATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCAA-TA
GCGTATACTAAATTTGTTGCAAGTAAAA-AGC-TCGTAGTTGAGATTGAGATTTCTTG-G
GT-TTAG--CATGGACTATGGCTT-CAC-GGTTTATA--A-T-TT-ATGTCAAGCTTTAT
AGTAAAGATTTT-ACTCTTA-TTATTTAAGTTA-CCAAGAAATTTCCAACCTGC-CCA--TG
CCAGTTAGCAATAATTG--GCTGATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTTCGCTTGTTCATGCAGCATGGTATAGTAAAAATATG
ACAC---TAAACATAT-GTTGGTTG-TATG---TA-T-TAGTGAATGACTAATAGGGAA
GGCGGGGCGGTTTCATTTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
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GTTCTTAG-TTGGTGGAGTGATTTGTCTGGTCAATTCCGATAACGGACGAGACCTTACC
TGCTAACTAGTGGTATTTATTTGGTCAA-ATGGGAGATAGTCATT-TGGTGTGGCAGTT
AGGC--CGTTAAAA-GTTTA---ATTGTCCTTCATTGAG-TGGTGTGTATCCTGATCAGA
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GCGTTACAATGTAGGCGAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATTGCTACGTAATGGGGATTA-ATTTTGTAAATTATCGATTA
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TTGTACACACCGCCCGTCTCTACCATCGAACGATTAGGTAATAACTGACAGACTG--
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-GT-TAAATCT--C---ATT--GTTT

>HQ141508.1_Heterostelium_australicum_NB1AP

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CAGTAAATCGGGGCTAATACATGTAAA-CG-AGAGGATGAGCGGG---CAACTGCG-AG
TCTTTGCGATTGTT---A-GCT-TTTATT---CACACCAACCTCTTCGGAGTTTGTGGT
GAGTCCGAACAATATTGCTGATCGGAA-----ATT-TATTTCCGACGAGTTCTTTGT
GTCACCTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCGGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTATGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCCATTTATATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCAA-TA
GCGTATACTAAATTTGTTGCAAGTAAAA-AGC-TCGTAGTTGAGATTGAGATTTCTTG-G
GT-TTAG--CATTGATTATGACTTT--CGGGTTTATA--A-T-TT-ATGTCAAGCTTTAT
AATAAGATTTT-ACTCTTG-TTATTTAAGTTA-CCAAGAAATTTCCAACCTGC-CCA--TG
CCAGTTAGCAATAATTG--GCTGATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTTCGCTTGTTCATGCAGCATGGTATAGTAAAAATATG
ACAC---TAAACATAT-GTTGGTTG-TATG---TA-T-TAGTGAATGACTAATAGGGAA
GGCGGGGCGGTTTCATTTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTTCGGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC

GAAGACGATCAGATACCGCTCGTAGTCCAAACCATAAACTATGTCGACCAGGGATTGGACG
GATAAT-TTTTTAAAACTCGCTCAGAACCTT-GTGAGAAATCAT-GAGTGTGGACTC
TGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGA-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTCAGATAT
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GTTCTTAG-TTGGTGGAGTGTATTGTCTGGTCAATTCCGATAACGGACGAGACCTTACC
TGCTAACTAGTGGTATTTTATTGGTCAATACGGGAGATAGTCATT-TGGTGTGGCAGTT
AGAC--CCTTAAAA-GTTTA---ATTGTCCTTCATTGAG-TGGTGTGTATCCTGATCAGA
TAG--GTACTAACTAAAAA-TA---AA-CTTCTTAGAGGGACTACCT-ACCTCAAGTGG
GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGACGAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATTGTCTACGTAATGGGGATTA-ATTTTTGTAATTATCGATTA
TCAACGAGGAATTCCTTGTAAAGCGTAAATCATTACTTTGCGCTGAATATGTCCTGCCCT
TTGTACACACCGCCCGTCTCCTACCGATCGAACGATTAGGTA AAAACTGACAGACTG--
-GAC-GACTTC--T----AAC-C-TGG---TTGAT-----CCT-GGT-GAACC--TG
-CA-GAAGGAT--C----A----GCC-

>AM168099.1 *Heterostelium equisetoides*_B7JB

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TCTTTGCGATTGTT---A-GCT-TTTATT---CACACCAACCTCTTCGGAGTTTGTGGT
GAGTCCGAACAATATTGCTGATCGGAA-----ACT-TGTTCCGACGAGTCTTTGT
GTCACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCACTTCTATGGA
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GT-TTAG--CGTATTTTATTGCCCTT--CGGGTTTATA--A-T--T-GCGTAAAGCTTTTT
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CCAGTTAGCAATAATTG--GCTGAT--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTT---TTAAGCTTGTCAATGCAGCATGGTATAGTAAAAATG
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GTTCTTAG-TTGGTGGAGTATTGTCTGGTCAATCCGATAACGGACGAGACCTTACC
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AGGC--CGTAAAAA-GTTTA---ATTGTCCTTCATTGAG-TAGTGTGTATCCTGATCAGA
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GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGGCGAGAAAAAGGT----TTCC-----GACATCGA-AAG---GT
GCC-GGTAATCAATTGAATTGCCTACGTAATGGGGATTA-ATTTTTGTAATTATCGATTA
TCAACGAGGAATTCCTTGTAAAGCGTAAATCATTACTTTGCGCTGAATATGTCCTGCCCT
TTGTACACACCGCCCGTCTCCTACCGATCGAACGATTAGGTA AAAACTGACAGACTG--
-GAT-GACTTC--T----CGC-A-AGG-GATTGTC-----GTT-TGG-AAAG--TTA
-GT-TAAATCT--C----ATT--GTTT

>HQ141506.1 *Heterostelium multicystogenum*_AS2

TCTAAG-TATAA-CCTTTA-TACGGTGA AAA-----CTGCAGAAAGGATCAACT-ACAAG-CA
--TGT---AGATAAATA-AAGAACCTTTCGC-GCTTC-----GGCGTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATATAAA-CG-AGAGGATGAGCGGG----CAACTGCG-AG
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GAATCCCTACAATATTGCTGATCGGAA-----ACT-TGTTCCGACGAGTCTTTGT
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CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCACTTCTACGGA
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GT-TTAA--CAGTCAGCATTCCTTACCCGGTTAATGCTT-TGATCT-GTAAAGCTTTAT
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CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAAAATG
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>HQ141496.1 *Heterostelium* sp. Laos3

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CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAAAATAG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGTAAATGACTAATAGGGAA
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>AM168104.1 *Heterostelium pallidum* PN500

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CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAAAATAG
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GGGCGGGCCGTTCAATTTGATGGCGGAGAGGTGAAATTCGTAGACCCTTCAAGATGCA
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-GT-TAAATCT--C----ATT--GTTT

>EU004605.1_Heterostelium pallidum PPHU8 ATCC 44421

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GT-TTAG---AGTC-GCTTGGCCTT--CGGGTTTGGAG-TT-TGAT-TCGTAAGCTCTAT
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>AM168105.1_Heterostelium tenuissimum TNS_C_97

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>AY040339.1 *Heterostelium tenuissimum*

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-GT-TAAATCT--C----ATT--GTTT

>MN338954.1 *Heterostelium versatile* Mad52

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>HQ141500.1_Heterostelium_flexuosum_AU4B

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AGGC--CGTCAAAA-GTTT----GCTATTCTTCATTGAG-TGGTGTGATTCTGATCAGA
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GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAGGCGAGAAAAAGGT----TTCC-----GGAATCGA-AAG---GT
TTC-GGTAATCATTGAATTGCCTACGTAATGGGGATTA-ATTTTGTAAATTATCGATTA
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TTGTACACACCGCCCGTCTCTACCGATCGAACGATTAGGTAAAACTGACGGACTA--
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>HQ141501.1_Heterostelium_rotatum_QC2C

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TCTTTGCGATTGTT----A-GCT-TTCA----CACACCAACCTCTTCGGAGTTTGTGGT
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CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
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TAATGCCTTTCCATTTATATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
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GT-TTAG--CGGTCCGCATTGCCTTAACCGGTTAATGTTT-TGAT-TCGTAAGCTTTAT
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CAAAGCA--GA-C---GTC---TT-CGTTTGTCAATGCAGCATGGTATGGTAAAAATATG
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AGGC--CGTCAAAA-GTTT----ACTATTCTTCATTGAG-TGGTGTGATTCTGATCAGA
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-CA-GAAGGAT--C---A---GCC-

>AM168074.1_Heterostelium_gloeosporum_TCK52

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CAAAGCA--GA-C---GTC--TT-CGTTTGTCAATGCAGCATGGTATGGTAAAAATATG
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AGGC--CGTTAAAA-GTTT---GCTATTCTTCATTGAG-TGGTGTGTATTCTGATCAGA
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>HQ141502.1_Heterostelium_granulosum_MF5A

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>KP167480.1_Heterostelium_ampliverticillatum

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-----GCC-

>KP16749.1_Heterostelium_cumulocystum

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>HQ141503.1_Heterostelium_asymmetricum_HN20C

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>AM168097.1 *Heterostelium asyetricum* OH567

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>MN752217.1 *Heterostelium multibrachiatum* 5916lun

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GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
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>MN752218.1 *Heterostelium multibrachiatum*_5904lun

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>AM168096.1 *Heterostelium anisocaulis*_NZ47B

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>AM168107.1 Heterostelium_pseudocandidum_TNS_C_91

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>KP167482.1 Heterostelium_pseudoplasmodiofascium

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-----GCC-

>KP167483.1 *Heterostelium parvimigratum*

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>KP167481.1 *Heterostelium migratissimum*

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>HQ141499.1_Heterostelium_boreale_BSB10A

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>HQ141497.1_Heterostelium_oculare_oculare

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TGTAGACTTCGC-GTTT-A-TATAAAAGTTA-CCAAAAAATTTCTTCTGC-CCA--T-
--ACTAAAATTTATTTA-GT-AATC--GGGTGTTCTACTGTGAGAAAA-TTGTAGTGT
TAAAGCA--GG-C---GTC---TT-TGTTTGTCAATGCAGCATGGTATAGTAAAAAAG
ACAC---TAAACATTT-GTTGGTT--AATG---TT-A-TAGTGAATGACTAATAGGGAA
GGGCGGGGCCGTTCAATTTGCTTAAAGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTTCGGCAAGTACTTCTCCATTAATCAAGAACGAAAGTTTGGGGATC
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AGTC---TTC-ACG-GATTA---ATTATCTTTCATTGATCTAGTGTGACTCTGATTAGA
TAA--GTACTAACTAAAAAATA---AAACTTCTTAGAGGGACTACCT-ACCTCAAGTGG
GGGG-AAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCTGCACGC
GCGTTACAATGTAAGTGAGAAAAAGGT----TTCC-----GGTATCGA-AAG---GT
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>AM168079.1 *Heterostelium oculare*_DB4B

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GAATCCGAACAATATTGCTGATCGGAA-----ACT-TGTTCCGACGAGTCTATGT
GTCACCTGCCCTTCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCATTCTACGGA
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ACAC---TAAACATTT-GTTGGTT--AATG---TT-A-TAGTGAATGACTAATAGGGAA
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>AM168077.1 *Speleostelium caveatum*_WS695

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GG-CTCA-----AACCAACATCCACTTTATAG-----TGTTTGA-----T
GGTTCC-TTATA-G--ACT-CAACT--TGA---CTCAGTATAGTCTACTTTT----GTA
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TAAAGCA--AG-C---GTA---TC-GCTTGTCTTTTCAGCATGGTATGATAAAAACATG
ATCT--GCGTCAAC--CATTGGTAG--TTG----ACTGTA-TGTAATGATTAATAGGGGA
GGATGGGGATGTTCAATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
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>AM168073.1 Tieghemostelium menorah M1

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>JF892725.1 Tieghemostelium unicornutum OH599

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-----T-C-----

>AM168045.1_Tieghemostelium_lacteum

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>JF892717.1_Tieghemostelium_montium_57a

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-TC-C---G---G---ACC---CGT

>JF892716.1_Tieghemostelium_angelicum_38B0

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>JF892722.1_Tieghemostelium_dumosum_OH602

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GT--TGGTTTTCTT-----G-GTACTTCACTGTGAGAAAA-TTGTGGTGT
CAAAGCG--GG-C---GTC---T-CGCCGTGATCTTTGCAGCATGGTATGATAAAACATG
ACAT---TTTGTGC--AATTGGTT--GCA---TTT-AAAGTGAATGATTAATAGGGAT
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CGT----CGCAAGG-TGC-----ATGACACTTCGGGGGG---TTTGTAACTTGATCAGA
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>AM168036.1_Hagiwaraea_coeruleostipes_CRLC53B
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>AM168063.1 Hagiwaraea rhizopodium_AusKY_4

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>HQ141494.1 Hagiwaraea radiculata_ML5A

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>AM168062.1 Hagiwaraea vinaceofusca_CC4

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TC--AGGTTTTCTTT-----GGATATTTCACTGCGAGGAAA-TTGTGGTGCT
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>AM168047.1 *Hagiwaraea lavandula* B15

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>AM168075.1 *Raperostelium tenue* PR4

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>AM168094.1 *Raperostelium tenue* PJ6

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GT-CGGGCTCGTTA-----GGGTTCTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---T-CGCTTGTATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGC-ATTTGGTT---GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATCGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAACTTCCCATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCTGATGCCAACTATAAACTATGTGACACAGGGATCAGCTA
AA--AT-TTCTAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATT
TGGGGGGAGTATGGTTCGCAAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTTATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTGGTCAATCCGATAACGACGAGATCTCGACC
TGCTAACTAGTAGTACCTATTAGCTCAATATGCATGAAAGCTTTGTTGGAGTAAAGTTGTA
GGT---CGAAAGG-TTT----ACAACACTTCGCTGGG---TCGGTAAATGTAATTA
TA-G-GTACGAT-AA---ACAAA---A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----AT-----CC--TGGTCCGG-AAG---GA
TT-GGGTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCGTCGCTCTACCGATCGAATGATACGGTAAAGCCAACAGATTG--
-G-----GT-----C-TGTAG---CAA-T-ACT-T-----GATC-CGA-AAAG--TTG
-TT-TAAATCT--C----ATT--GTTT

>JF892721.1 *Raperostelium capillare* 37A

TCTAAG-TATAAATTTTT-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAATA-ATAGACTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAAAT-CG-AGGGG-TGACTGTT-----TAC-G-G-AA
TCTCCGCGATTATT---A-GCA-IT--CAA-CCAATAC--CTTTCGAGGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCAAAG-----CTTTCGGCTTTGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT

TAATGCCTATCC--TT-TTAGGAAG--GTAATTA AAAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTTAAACAAAAATTATATT-G
GG-CTAA-----TAGGTGTTAGCCGATTTTTATC-----C-CGGTTTAA-----T
ACTTCCAATATATATTTTT-TAAATATTAGCT-CTTGGATTTGGTTACTTTT-----GTA
ATTCAAGTTCGTTA-----GAGTCCTTACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---T-CGCTTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGTGC--TATTGGTT---GCA-----TTAAAGTGTAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAACTACTTCCCATTAAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCAGCTA
AA--AT-TTCTAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATT
TGGGGGGAGTATGGTGCAGAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACATATTAGCTCAATATGCATGAAAGATTAGTTGGAGTAAGTTGTA
GGT---CGAAAGG-TTT-----ACAGCACTTCACTGGT---TCGGTAATGTGAATTA
TATG-GTACGAT-AA---ATAAA---A--CTTCTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----CT-----CC--TGGTCCGG-AAG---GA
TT-GGGTAATCAAAA-AATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACAGATTG--
-GAT-----C-TGTAG---CAA-T-ACA-----GAGC-TGA-AAAG--TTG
-TT-TAAATCT--C---ATT--GTT-

>JF892724.1 *Raperostelium filiforme* OH603

TCTAAG-TATAAATTTTAT-TATGATGAAA----CTGCAGACGGCTCAAT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGC-TGACTGTT-----TAC-G-G-AA
TGTCCCGATTATT---A-GCA-TT--CAA-CCAATAC--CTTTCGAGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCAAAG-----CTT-CGGCTTTGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCCTTCTACGGA
AGGCAGCAGGCGCGCAAAT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTA AAAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTTAAACAAAAATTATATT-G
GG-CTAA-----TAGGTGTTAGCCGATTTTTATC-----C-CGGTTTAA-----T
ACTTCCAATATATATTTTT-TAAATATTAGCT-CTTGGATCTGGTTACTTTT-----GTA
ATTCAGGTTTCGTTA-----GAGTCCTTACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---T-CGCTTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGTGC--TATTGGTT---GCA-----TTAAAGTGTAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAACTACTTCCCATTAAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCAGCTA
AA--AT-TTCTAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATT
TGGGGGGAGTATGGTGCAGAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACATATTAGCTCAATATGCATGAAAGATTAGTTGGAGTAAGTTGTA
GGT---CGAAAGG-TTT-----ACAGCACTTCACTGGT---TCGGTAATGTGAATTA
TATG-GTACGAT-AA---ATAAA---A--CTTCTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----CT-----CC--TGGTCCGG-AAG---GA
TT-GGGTAATCAAAA-AATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACAGATTG--
-G-T---TT---C--GTAG-G-CAA-T-TCA-----GAGC-TGA-AAAG--ATA
-TT-TAAATCT--C---ATT--GTTT

>HQ141491.1 *Raperostelium* sp. TH14B

TCTAAG-TATAAATTTTAT-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGG-TGACTGTT-----TAC-G-G-AA
TCCCGCGATTATT---A-GCT-TTT-CAA-CCAATACTCTTTT-GGAGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-AGGCATCGACAAGTCTACTGT
GTTACTGCCCTATCAACTTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCCTTCTACGGA
AAGCAGCAGGCGCGCAAAT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTA AAAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATTA AAAATTACATT-G

GG-CTAAA-----TAGGTTTTAGCCGATTTTTTCATC-----GGTTTAA-----A
ACTTCCAATGTATATTTTT-TAAATTTTTGGCT-CATGAATTTGGTTACTTTT----GTA
ATTCAAGTTCTTTT-----GGTTCTTACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---TTCGCTTGATCTTTTGCAGCATGGGATGATAGAACATG
ACAT--TTTGCGC--TATTGGTT--GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATATGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCATTAAATCAAGAACGAAAAGTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTGACACAGGGATCAGCTA
AA--AT-TTCTAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATT
TGGGGGGAGTATGGTTCGCAAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACTTACAGCTCAATATGCACGAAAGCTTTGTTGGAGTAAGTTGTA
GGT----CGAAAGG-TTT----ACAACACTTCGCTGAG----TCGGTAGTGTGAATTGA
TAA--GTACGCTTAA--ATAAA---A--CTTCTTAGAGGGACTACCT-GTGGCAAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCA----AT----CC--TGGTCCGG-AAG---GA
CT-GGGTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACAGATTA--
---AT---GTA---T-T-TGG-G-AAA-CCATT-T-----ACGT-TGA-AAAAG--TTG
-TT-TAAATCT--C---AT---GTT-

>AM168078.1 *Raperostelium gracile*_TNS_C_183

TCTAAG-TATAAATTTTTA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT----AATAAACTA-ATAGACTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGG-TGACTGTT-----TAC-G-G-AA
TCCCGCGATTATT----A-GCT-TTT-CAA-CCAATACCTTTTTGGAGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-AGGCATCGACAAGTCTACTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGTTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCCTTCTACGGA
AGGAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCAA-TA
GCATATACTAAATTTGTGCGGTTAAAA-AGC-TCGTAGTTGAAATTAATAATTATATT-G
GG-CTAAA-----TAGGTTTTAGCCGATTTTTTCATC-----GGTTTAA-----A
ACTTCCAATATATATTTTT-TAAATTTTTGGCT-CATGAATTTGGTTACTTTT----GTA
ATTCAAGTTCTTTT-----GGTTCTTACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---TTCGCTTGATCTTTTGCAGCATGGGATGATAGAACATG
ACAT--TTTGCGC--TATTGGTT--GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATATGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCATTAAATCAAGAACGAAAAGTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTGACACAGGGATCAGCTA
AA--AT-TTCTAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATT
TGGGGGGAGTATGGTTCGCAAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACTTACAGCTCAATATGCACGAAAGCTTTGTTGGAGTAAGTTGTA
GGT----CGAAAGG-TTT----ACAACACTTCGCTTGG----TCGGTAGTGTGAATTGA
TAA--GTACGCTTAA--ATAAA---A--CTTCTTAGAGGGACTACCT-GTGGCAAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCA----AT----CC--TGGTCCGG-AAG---GA
CT-GGGTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACAGATTA--
---AT---GTA---T-TATGG-G-CAA-CCATTTT-----ACGT-TGA-AAAAG--TTG
-TT-TAAATCT--C---ATT--GTTT

>JF892719.1 *Raperostelium maeandriforme*_OH604

TCTAAG-TATAAATTTTTA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT----AATAAACTA-ATAGACTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGG-TGACTGTT-----TAC-G-G-AA
TCTCCGCGATTATT----A-GCA-TT--CAA-CCAATAC--CTTTCGAGGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-CGGCTTGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGTTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCCTTCTACGGA
AGGAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCAA-TA
GCATATACTAAATTTGTGCGGTTAAAA-AGC-TCGTAGTTTAAACAAAAATTATATT-G
GG-CTAAA-----TAGGTTAGCCGATTTTTATAA---GC-CGGTTTTA-----T
ACTTCCAATATATATTTTT-TAAATATTAGCT-CTTGGATTTGGTTACTTTT----GTA
ATTCAAGTTCGTTA-----GAGTCTTACTGTGAGAAAA-TTGTGGTGCT

TAAAGCA--GG-C---GTT---T-CGCTTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGTGC--TATTGGTT---GCA----TAAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCCATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTGACCCAGGGATCAGCTA
AA--AT-TTCTAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATTC
TGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACATATTAGCTCAATATGCATGAAAGATTAGTTGGAGTAAGTTGTA
GGT----CGAAAGG-TTT-----ACAGCACTTCACTGGT----TCGGTAATGTGAATTA
TATG-GTACGAT-AA---ATAAA---A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCGTGTATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----CT----CC--TGGTCCG-AAG---GA
TT-GGGTAATCAAAA-AATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCCTACCGATCGAATGATACGGTAAAGCCAACAGATTG--
-GAT-----C-TGTAG--CAA-T-ACAA-----GGTC-TG--AAAG--TTG
-TT-TAAATCT--C---ATT--GTTT

>AM168051.1_Raperostelium_minutum_71_2

TCTAAG-TATAAATTTTATA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGG-TGACTGTT-----TAC-G-G-AA
TCTCCGCGATTATT---A-GCT-TT--CAA-CCAATAC--CCTTCGGGGTTTTG-TGGC
GAGACCGAATAATATTGCAGATCAAGG-----CTT-CGGCTTTGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCGGAGAGGGCGCCTGAGAAATGGCGACCATTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--T--TCGGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCAGCAGCGCGGTAATTCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATTAATAATTACATT-G
GG-TCAA-----G-GGCTTTAGTTCGATTTTTCGTC-----GGTTTAA-----A
GCTTCCAATGTATTTTTTTT-TAAAA-TTAACT-CATAATCTTGTTACTTT-----GTA
ATTCAGGGTTTTTT-----GGGTATTTCACTGTGAGAAAA-TTGTTGGTGTCT
TAAAGCG--GG-C---GTT--T-TGCTTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGTGC--GATTGGTT---GCA----TAAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCCATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTGACCCAGGGATCAGCTA
AA--AT-TTTACAAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATTC
TGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATTTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACTTATCAGTTCGATATGCATGAAAGGCTTGTGGAGTAAGTTGTA
GGT----CGAAAGG-TTT-----ACAACACTTCACTGGT----TCGGTAATGTGAGCAGA
TAA--GTACGAAAAA---TAAC---A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCGTGTATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----AA-----C---TGGTCTGG-GAA---GA
TT-GGTTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCCTACCGATCGAATGATACGGTAAAGCCAACGGATGA--
-GAT-----CATGTAG--CAA-T-ACAA-----GGTC-TTA-AAAG--TTG
-TT-TAAATCT--C---ATT--GTTT

>HQ141493.1_Raperostelium_ohioense_Okla4C

TCTAAG-TATAAATTTTATA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGG-TGACTGTT-----TAC-G-G-AA
TCTCCGCGATTATT---A-GCT-TT--CAA-CCAATAC--CCTTCG-GGTTTTG-TGGC
GAGACCGAATAATATTGCAGATCAAGG-----CTT-CGGCTTTGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCGGAGAGGGCGCCTGAGAAATGGCGACCATTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--T--TCGGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCAGCAGCGGTAATTCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATTAATAATTACATT-G
GG-TCAA-----G-GGCTTTAGTTCGATTTTTCGTC-----GGTTTAA-----A
GCTTCCAATGTATTTTTTTT-TAAAA-TTAACT-CATAATCTTGTTACTTT-----GTA
ATTCAGGGTTTTTT-----GGGTATTTCACTGTGAGAAAA-TTGTTGGTGTCT
TAAAGCG--GG-C---GTT--T-TGCTTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGTGC--GATTGGTT---GCA----TAAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA

CTTCTGCGAAAGCATTACCAAATACTTCCCCATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCGAGGGATCAGCTA
AA--AT-TTTACAAAAATTTAGTTGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATT
TGGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATTTTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTAAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACTTATCAGTTCGATATGCATGAAAGGCTTGTGGAGTAAGTTGTA
GGT----CGAAAGG-TTT----ACAACACTTCACCTGGT----TCGGTAATGTGAGCAGA
TAA--GTACGAAAAA----TAAC---A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----AA-----C---TGGTCTGG-GAA---GA
TT-GGTTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCTGCCCCT
TTGTACACACCGCCCGTCTCCTACCGATCGAATGATACGGTAAAGCCAACGGATGA--
-GAT-----CATGTAG---CAA-T-ACAAT-----GGTC-TTA-AAAG--TTG
-TT-TAAATCT--C---ATG--TTTT

>AM168069.1 *Raperostelium potamoides* FP1A

TCTAAG-TATAAATTTTTA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT----AATAAACTA-ATAGACTTTCAG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-TG-AGGGC-TGACTGTT-----TAC-G-G-GA
TGTCCGCGATTATT----A-GCA-TT--CAA-CCAATAC--CTCTCGGGGTTTTG-TGGT
GAAACCGAATAATATTCAGATCGAGG-----CTT-CGGCTTCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATTAAGCTATATT-G
GG-TCAA-----G-GGTTCTAGCCGGTTTTACACC-----GGTTTAGT----A
ACTTCCAGTATATGTTTT-TAAAT-TTTTTCC-CATAAGTTTGGTTACTTTTT-----GTA
ATTTCAAACGGTTC-----GGTACTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCG--AG-C---GTT--T-TGCTTGATCTTTTGCAGCCTGGTATGATAGAACATG
ACAT--TTTACGC--TATTGGTT--GCG----TTAGAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCCATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAAGGATCAGCTA
AA--AT-TTTACAAAAATTTAGTTGGCACTTT-GTGAGAAATCAT-GAGTGTTTAGATT
TGGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACATATTAGCTCAATATGCGTGAAAGTTTCGGCGGAGTAAGTTGTA
GGT----CGAAAGG-TTT----ATGACACTTCACGGGA----TCGGTAACGTGAATTA
TATT-GTACGATAAAA--AATAAAA--A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT-----TT-----CC--TGGTCCGG-GAG--GA
CT-GGGTAATCATTATAATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCTGCCCCT
TTGTACACACCGCCCGTCTCCTACCGATCGAATGATACGGTAAAGCCAACAGATGA--
---A-----TT---TG-GTAG--TAA-T-AC--T-----AAGT-TTA-AAAG--TTG
-TT-TAAATCT--C---ATT--GTTT

>EU672875.1 *Raperostelium* sp. MR_2008

TCTA-G-TATAAATTTTTA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT----AATAAACTA-ATAGACTTTCAG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-TG-AGGGC-TGACTGTT-----TAC-G-G-AA
TGTCCGCGATTATT----A-GCA-TT--CAA-CCAATAT--CCTCCGGGATTTT-GTGGT
GAAACCGAATAATATTCAGATCGGAG-----CCT-TGGCTCCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATTAAGCCATATT-G
GG-TTAA-----T-GGTTCTAGCCGATTTTACGTC-----GGCCTAG-----G
ACTTCCAGTATGTTTTT-TAAAT-TTATCC-TATAAGTTTGGTTACTTTTT-----GTA
ATT-CAGACGATCT-----AGGTGTTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCG--AG-C---GTT--T-TGCTTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT--TTTGCGC--TATTGGTT--GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCAATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAAGGATCAGCTA
AA--AT-TTTACAAAAATTTAGTTGGCACTTT-GTGAGAAATCAT-GAGTGTTTAGATT

TGGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACATATTAGCTCAATATGCGTGAAAGCTTTGTTGGAGTAAAGTTGTA
GGT----CGAAAGG-TTT----ATGACACTTCGCTGGG----TCGGTAACGTGAATTA
TAT--GTACGATAAA--AACAAA--A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT----AT----CC--TGGTCCGG-GAG--GA
CT-GGGTAATCATTATAATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACAGATGA--
---A----TT---TG-GTAG---CAA-T-AC--T-----AAGT-TTA-AAAG--TTG
-TT-TAAATCT--C----AT--GTT-

>HQ141495.1 *Raperostelium ibericum*_214rjb

TCTA-G-TATAAATTTTATA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCAG-GTTTTA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-TG-AGGGC-TGACTGTT----TAC-G-G-AA
TGTCCGCGATTATT---A-GCA-TT--CAA-CCAATAT--CCTCCGGGATTTG-TGGT
GAAACCGAATAATATTGCAGATCGGAG-----CCT-TGGCTCCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAAT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATTAAGCCATATT-G
GG-TTAA-----T-GGTCTTAGCCGATTTTACGTC-----GGCCTAG----G
ACTTCCAGTATGTGTTTTT-TAAAT-TTATCC-TATAAGTTTGGTTACTTTT----GTA
ATT-CAGACGATCT-----AGGTGTTTCACTGTGAGAAAA-TTGTGGTGTCT
TAAAGCG--AG-C---GTT--T-TGCTTGATCTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT---GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAAATACTTCCCATAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCTGATGCCAACTATAAACTATGTCGACCAAGGATCAGCTA
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AGTGGAG-CCTGCGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTACATATTAGCTCAATATGCGTGAAAGCTTTGTTGGAGTAAAGTTGTA
GGT----CGAAAGG-TTT----ATGACACTTCGCTGGG----TCGGTAACGTGAATTA
TAT--GTACGATAAA--AACAAA--A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCT----AT----CC--TGGTCCGG-GAG--GA
CT-GGGTAATCATTATAATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACAGATGA--
---A----TT---TG-GTAG---CAA-T-AC--T-----AAGT-TTA-AAAG--TTG
-TT-TAAATCT--C----AT--GTT-

>MN338957.1 *Raperostelium stabile*_M12A

TCTAAG-TATAAATTTTATA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTTCA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGC-TGACTGTT----TAC-G-G-AA
TGTCCGCGATTATT---A-GTC-TT---AA-CCAGTAC--CCTTCGGGGTTTGTATGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-ACGCTTTGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAAT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAAGTTAAAGCCATTATT-G
GG-TTAA-----TAGGTTTTAGCCGATTTA--TTC-----GGTTTAA-----A
GCTTCCAATATGTGTTTTT-TAAAT--TAACT-CATGGATTAGGTTACTTTT----GTA
ATTCTAGTTCTTTT-----GGGTGTTTCACTGTGAGAAAA-TTGTGGTGTCT
TAAAGCG--GG-C---GTT--T-TGCCTGATCTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT---GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAAATACTTCCCATAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCTGATGCCAACTATAAACTATGTCGACCAAGGATCAGCTA
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AGTGGAG-CCTGCGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
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GTTCTTAG-TTGGAGGAGCAATCTGTCTGGTCAATCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTATATATCGATTTCGATATGCATGAAAGCCTTGTCCGAGTAAGTTGTA
GGTT---CGCAAGGGTCT----ATGGCACTTCGCTGGG---TCGGTAATGTGAGTTGA
TAG--GTACGAAAAATTA-----A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
CGCTACAATGTAGTACGCAAAAAGCA----AT----CC--TGGTCCGG-GAG---GA
CT-GGGTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTTTTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACCGATAG--
-----GC---CA-GTAG---CAA-T-ACA-T-----GGCT-TTA-AAAG--TTG
-TT-TAAATCT--C----ATT--GTTT

>AM168029.1 Raperostelium australe_NZ80B

TCTAAG-TATAAATTTTTA-TATGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTCA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGTAATACATACAAT-CG-AGGGC-TGACTGTT----TAC-G-G-AA
TGTCCGCGATTATT---A-GCA-TTT--AA-CCAATAC--CCTTCGGGGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-CGGCTTCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGTTTCGATTCGGAGAGGGCGCCTGAGAAATGGCGACCATTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAGTAAAAACCTTATT-G
GG-TTAA-----TAGGTCTTAGTCGATTTT-ATC-----GGTTTAA-----G
GCTTCCAATACGCGTTTTT-TAAAC--TAGCT-CATGGATTAGGTTACTTTTT----GTA
ATTCTGGTCTTTTT-----GGGTGTTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCG--GG-C---GTT---T-TGCCTGATCTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT---GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
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TGCTAACTAGTAGTATATATCGATTTCGATATGCATGAAAGCTTTGTTGGAGTAAAGTTGTA
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TAA--ATACGAAAAATTA-----A--CTTCTTAGAGGGACTACCT-GTGGCAAACAG
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CGCTACAATGTAGTACGCAAAAAGCA----AT----CC--TGGTCCGG-GAG---GA
CT-GGGTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTTTTGATCA
TTAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
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---A---GT----CA-GTAG---CAA-T-ACA-T-----GACT-CTA-AAAG--TTG
-TT-TAAATCT--C----ATT--GTTT

>AM168052.1 Raperostelium monochasoides_HAG653

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---GT---AATAAACTA-ATAGACTTTCGG-GTTTCA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGTAATACATACAAT-CG-AGGGC-TGACTGTT----TAC-G-G-AA
TGTCCGCGATTATT---A-GCA-TT--CAA-CCAATAC--CCTTCGGGGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-CGGCTTCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGTTTCGATTCGGAGAGGGCGCCTGAGAAATGGCGACCATTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TTAGGAAG--GTAATTAATAAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAATAAAGCCTTATT-G
GG-TTAA-----TAGGTCTTAGTCGATTTT-ATC-----GGTTTAA-----G
ACTTCCAATATGTGTTTTT-TAAAT--TAACT-CATGGATTAGGTTACTTTTT----GTA
ATTCTAGTTCGTTT-----GGGTGTTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---T-TGCCTGATCTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT---GCG----TTAAAGTGAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCATTAATCAAGAACGAAAGTTTGGGGATC
AAAGACGATCAGATACCGTCTGATGCCAAACTATAAACTATGTGACCAAGGATCAGCTA
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AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTATATATCGATTTCGATATGCATGAAAGCTTAGTCCGAGTAAAGTTGTA
GGTT---CGCAAGGGTCT----ATGGCACTTCGCTGGG---TCGGTAATGTGAGTTGA

TAA--ATACGAAAAATTAaaaaa---A--CTTCTTAGAGGGACTACCT-GTGGCAAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCA----TT-----CC--TGGTCCGG-GAG---GA
CT-GGGTAATCATAA--ATTACTACGTAACCTGGGATTG-ATCTTTGTAATTTTTGATCA
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TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACGGACGG--
---A---GT-----CA-GTAG---CAA-T-ACA-T-----GACT-CTA-AAAG--TTG
-TT-TAAATCT--C---GTT--GTTT
>HQ141492.1_Raperostelium_sp_TH8C_TH8C
TCTAAG-TATAAAATTTTA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTCA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGC-TGACTGTT-----TAC-G-G-AA
TGTCCGCGATTATT---A-GCA-TT--CAA-CCAATAC--CTCTCGGGGTTTTG-TGGT
GAAACCGAATAATATGCAGATCGAAG-----CTT-CGGCTTCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TT-TAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCGCGGTAATCCAGCTCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAATAAAAGCCTTATT-G
GG-TTAA-----AAGGTCTTAGTCGATTCT--ATC-----GGTTTAA-----G
GCTTCCAATATGTGTTTTT-TAAAC--TAGCT-CATGGATTAGGTTACTTTT-----GTA
ATTCTAGTCTTTT-----GGGTGTTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCA--GG-C---GTT---T-TGCTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT--GCG-----TTAAAGTGTAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
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TAA--ATACGAAAAATTAaaaaa---A--CTTCTTAGAGGGACTACCT-GTGGCAAAACAG
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GCGCTACAATGTAGTACGCAAAAAGCA----AT-----CC--TGGTCCGG-GAG---GA
CT-GGGTAATCATAA--ATTACTACGTAACCTGGGATTG-ATCTTTGTAATTTTTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAAATCATTACTTTGTGCTGAATATGTCCTGCCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGCCAACGGATGG--
---A---G-----CA-GTAG---CAA-T-ACG-A-----G-CT-CTA-AAAG--TTG
-TT-TAAATCT--C---AT---GTT-

>JF892723.1_Raperostelium_reciprocatum_var_transitum_OH601
TCTAAG-TATAAAATTTTA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTCA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGC-TGACTGTT-----TAC-G-G-AA
TGTCCGCGATTATT---A-GCA-TT--CAA-CCAATAC--CTCTCGGGGTTTTG-TGGT
GAAACCGAATAATATGCAGATCGAAG-----CTT-CGGCTTCGACAAGTCTATTGT
GTTACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGCGCCTGAGAAATGGCGACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAGAAATAT
TAATGCCTATCC--TC-TAGGAAG--GTAATTAATAATGGGTCTAAACTAAATCCATTTT
CT-AATACAATTGGAGGGCAAGTCTGGTGCCAGCAGCGCGGTAATCCAGCTCAA-TA
GCATATACTAAATTTGTTGCGGTTAAAA-AGC-TCGTAGTTGAAGTAAAGCCTTATT-G
GG-TTAA-----TAGGTCTTAGCCGACTTC--GTC-----GGTTTAA-----G
GCTTCCAATATGTGTTTTT-TAAAT--TAATT-CATGGATTAGGTTACTTTT-----GTA
ATTCTAGTCTTTT-----GGGTGTTTCACTGTGAGAAAA-TTGTGGTGCT
TAAAGCG--GG-C---GTT---T-AGCCTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT--GCG-----TTAAAGTGTAATGATTAATAGGGAT
GGATGGGGGTGTTCAATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
-TTCTGCGAAAGCATTACCAATACTTCCCATTAAATCAAGAACGAAAGTTTGGGGATC
AAAGCAGATCAGATACCGTCTAGTCCAAACTATAAACTATGTGACCAAGGATCAGCTA
AA--AT-TTTACAAAAATTTAGTTGGCACTTT-GTGAGAAATCAT-GAGTGTTTAGATT
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AATAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTGTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCAATCTGTCTGGTCAATTCCGATAACGGACGAGATCTCGACC
TGCTAACTAGTAGTATATATCGATTCAATATGCATGAAAGCCTTGTGGAGTAAAGTTGTA
GGT---CGCAAGG-TCT---ATGACACTTCGCTGGG---TCGGTAATGTGAGTTGA
TAA--ATACGAAAAATTAaaaaa---A--CTTCTTAGAGGGACTACCT-GTGGCAAAACAG
GGGG-AAGTTCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGTACGCAAAAAGCA----AT-----CC--TGGTCCGG-GAG---GA

CT-GGGTAATCATAA--ATTTACTACGTAACCTGGGATTG-ATCTTTGTAATTTTGTATCA
TCAACGAGGAATTCCTTGTAAGCGCAAATCATTACTTTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCGCTCTACCGATCGAATGATACGGTAAAGCCAACAGATGG--
--A---GT---CA-GTAG---CAA-T-ACA-T-----GACT-TTA-AAAG--TTG
-TT-TAAATCT--C---ATT--GTT-

>AM168076.1 *Raperostelium tenue* Pan52

TCTAAG-TATAAATTTTAA-TATGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---AATAAACTA-ATAGACTTTCGG-GTTTCA---TTACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAT-CG-AGGGC-TGACTGTT-----TAC-G-G-AA
TGTCCGCGATTATT---A-GCA-TT--CAA-CCAATAC--CTCTCGGGGTTTTG-TGGT
GAAACCGAATAATATTGCAGATCGAAG-----CTT-CGGCTTCGACAAGTCTATTGT
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GG-TTAA-----TAGGTCTTAGCCGACTTC--GTC-----GGTTAA-----G
GCTTCCAATATGTGTTTTT-TAAAT--TAATT-CATGGATTAGGTTACTTTTT----GTA
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TAAAGCG--GG-C---GTT---T-AGCCTGATCTTTTGCAGCATGGTATGATAGAACATG
ACAT---TTTGCGC--TATTGGTT---GCG----TTAAAGTGTAATGATTAATAGGGAT
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>JF892718.1 *Raperostelium reciprocum* 38A

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>HQ141490.1 Coremiostelium polycephalum_Landolt_#1675_GUAM
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>AM168056.1 Coremiostelium polycephalum_MY1_1
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>HQ141489.1 Coremiostelium polycephalum_Landolt_#2132_B_9c

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>HQ141488.1 Coremiostelium polycephalum_Landolt_#1130_SS3B

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>JX173877.1 Polysphondylium fuscans_Sweden_11D

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>HQ141487.1 Polysphondylium_sp._Tibet_10A

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>AM168046.1 Polysphondylium_laterosorum_AE4

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GG-TTAA-----AAATCATTG-CCTTTTT-----T-TGGTTAAATA---G
AATTCAGTATTGCTTTT-T-----AAAG-TTCAGTTTGTAGTACTTT-----
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>HQ141485.1_Polysphondylium sp. Laos4 Laos4

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>AM168071.1 Dictyostelium discoideum NC4

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>AM168038.1 Dictyostelium dimigraformum_AR5b

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>AM168033.1 Dictyostelium citrinum_OH494

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>AM168042.1 *Dictyostelium giganteum* WS589

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GCATATACTAAAGTTGTTGCAAGTTAAAA-AGC-TCGTAGTTGAAGTTAAGGGTTTATC-G
GG-CTAA-----AGTTATTTG-CCACTTT-----G-TGGTAAAATT---C
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-TT-TAAATCT--C----ATT--GTTT

>AY040335.1 *Dictyostelium purpureum*

TCTAAG-TATAAATCTTG-TACGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTG-CTAGACTTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAGAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCCTGCCCTATCAACTTTCGATGGTACGGTATTGGCCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGCAAGTCTGGTGGTCCAGCAGCCGCGGTAATCCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGTTTTATT-G
GG-CTAA-----CGTTTTTTA-CCACCCT-----G-TGGCTAAAA----T
AACTCCAATATTTCTTTTT-TT----AATAG-CTCAGTTTCTAGG-TCTT-----TG
ACTCTAGTTATTTG-----GGCATTTCCTGTGAGAAAA-TTGTGGTGT
TAAAGCA--GG-C---GTC---TC-GTCTGATCTTTTGCAGCATGGTATGATGGAACATG
ACAT---TTTACGC--TATTGGT--GCG---TCTAAAGTGAATGATTAATAGGGAT
GGATGGGGATGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTCACTCAAACTTCCCCTAATCAAGAACGAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCTAGTCCAAACTATAAACTATGTCGACCAGGGATCGGCTA
AT--AT-TTTTTAAAAATTTAGTCGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATTC
CGGGGGGAGTATGGTCGCAAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATTCCGATAACGGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTA-GTCGATATAGGCGATAGCTTCTCTGGGGTT-GG-AGT
G-CG---GC--AA-CGTA----TCTCTGCTTCAAGGAG---TGTGTAGTCTGACTTGA
TAG--GTACGTTAAC---AAAA---A--CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGACGC
GCGCTACAATGCAGATAGCAAAAAGGT----TCC-----TGGTCTGG-AAA---GA
TT-GGGTAATCAATTGAATTTTCTGCGTAACTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCTAAGTCAATACCTTATGCTGAATATGTCCTGCCCT
TTGTACACACCGCCGTCGCTCTACCGATCGAATGATACGGTAAAGTTAACGGATAG--
-----TTTT---TTTGTGG-C-AAC-ACAATTA-----AAA--TTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTTT

>FJ424828.1 *Dictyostelium purpureum*_QSpU36

TCTAAG-TATAAATCTTG-TACGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTG-CTAGACTTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAGAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCCTGCCCTATCAACTTTCGATGGTACGGTATTGGCCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA

AGGCAGCAGGCGCGCAAATT-CTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGTTTTATT-G
GG-CTAA-----CGTTTTTA-CCACCCT-----G-TGGCTAAAA----T
AACTCCAATATTTCTTTTT-TT-----AATAG-CTCAGTTTCTAGG-TCTT-----TG
ACTCTAGTTATTTG-----GGCATTTCACCTGTGAGAAAA-TTGTGGTGTT
TAAAGCA--GG-C---GTC---TC-GTCTGATCTTTTGCAGCATGGTATGATGGAACATG
ACAT--TTTACGC--TATTGGTTT--GCG---TCTAAAGTGTAATGATTAATAGGGAT
GGATGGGGATGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAAGCATTTCATCAATACTTCCCATTAATCAAGAACGAAAAGTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCGGCTA
AT--AT-TTTTTTAAAAATTTAGTCGGCACCTT-GTGAGAAATCAT-GAGTGTTTATGATTC
CGGGGGGAGTATGGTTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATTCCGATAACGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTA-GTCGATATAGGCGATAGCTTCTCTGGGGTT-GG-AGT
G-CG---GC--AA-CGTA---TCTCTGCTTCAAGGAG---TGTGTAGTCTGACTTGA
TAG--GTACGTTAAC---AAAAA---A--CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGCAGATAGCAAAAAGGT----TCC-----TGGTCTGG-AAA---GA
TT-GGGTAATCAATGAAATTTCTGCGTAACTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCTGAAAGTCAATACCTTATGCTGAATATGTCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGTTAACGGATAG--
-----TTTT---TTGTGG-C-AAC-ACAATTA-----AAA--TTA-AAAG--TTA
-TT-TAAATCT--C---ATT--GTTT

>AM168061.1 *Dictyostelium purpureum*_WS321

TCTAAG-TATAAATCTTG-TACGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTG-CTAGACTTTCGG-GTTTTT----AACCTTTT-GGATAACCG
CAGTAAATCGGGGTAATACATAGAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT----A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGGCAAGTCTACTGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGTTTTATT-G
GG-CTAA-----CGTTTTTA-CCGCTCT-----GC-GGCTAAAA----T
AACTCCAATAATCTTTTT-TT-----AATAG-CTCAGTTTCTAGG-TCTT-----TG
ACTCTAGTTATTTG-----GGCATTTCACCTGTGAGAAAA-TTGTGGTGTT
TAAAGCA--GG-C---GTC---TC-GTCTGATCTTTTGCAGCATGGTATGATGGAACATG
ACAT--TTTACGC--TATTGGTTT--GCG---TCTAAAGTGTAATGATTAATAGGGAT
GGATGGGGATGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAAGCATTTCATCAATACTTCCCATTAATCAAGAACGAAAAGTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCGGCTA
AT--AT-TTTTTTAAAAATTTAGTCGGCACCTT-GTGAGAAATCAT-GAGTGTTTATGATTC
CGGGGGGAGTATGGTTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACGCAATG
AGTGGAG-CCTGCGGCTTAAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATTCCGATAACGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATG-TCAATACGGGCGATAGCTTTTCTGGGGTT-AG-AGT
G-CG---GC--AA-CGTA---TCTCTGCTTCAAGGAG---TGTGTAGTCTGACTTGA
TAG--GTACGTTAAC---AAAAA---A--CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGCAGATAGCAAAAAGGT----TCC-----TGGTCTGG-AAA---GA
TT-GGGTAATCAATGAAATTTCTGCGTAACTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCTGAAAGTCAATACCTTATGCTGAATATGTCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGTTAACGGATAG--
-----TTTT---TTGTGG-C-AAC-ACAATTA-----AAA--TTA-AAAG--TTA
-TT-TAAATCT--C---ATT--GTTT

>HQ141481.1 *Dictyostelium purpureum*_cavender

TCTA-G-TATAAATCTTG-TACGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTG-CTAGACTTTCGG-GTTTTT----AACCTTTT-GGATAACCG
CAGTAAATCGGGGTAATACATAGAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT----A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCCAGCTCCAA-TA

GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGTTTTATT-G
GG-CTAA-----CGTTTTTA-CCGCTCT-----GCTGGCTAAAA---T
AACTCCAATAAATCTTTTT-TT-----AATAG-CTCAGTTTCTAGG-TCTT-----TG
ACTCTAGTTAATTTG-----GGCATTTCAGTGTGAGAAAA-TTGTGGTGTT
TAAAGCA--GG-C---GTC---TC-GTCTGATCTTTTGCAGCATGGTATGATGGAACATG
ACAT---TTTACGC--TATTGGTTT--GCG---TCTAAAGTGAATGATTAATAGGGAT
GGATGGGGATGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTTCATAAATACTTCCCATTAATCAAGAACGAAAGTTTGGGGATC
GAAAGCAGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCCGACCAGGGATCGGCTA
AT--AT-TTTTTTAAAAATTTAGTCGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATTC
CGGGGGGAGTATGGTCGCAAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGAAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATTCCGATAACGGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTG-GTCAATACGGGCGATAGCTTTTCTGGGGTT-AG-AGT
G-CG---GC--AA-CGTA---TCTCTGCTTCAAGGAG---TGTGTAGTCTGACTTGA
TAG--GTACGTTAAC---AAAA-----CTTCTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGCAGATAGCAAAAAAGGT----TCC-----TGGTCTGG-AAA---GA
TT-GGGTAATCAATGAAATTTTCTGCGTAACTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGTAAGTCATTACCTTATGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGTTAACGGATAG--
-----TTTT---TTTGTGG-C-AAC-ACAATTA-----AAAA-TTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTTT

>AM168060.1 *Dictyostelium purpureum* C143

TCTAAG-TATAAATCTTG-TACGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTG-CTAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAGAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-TTTGGAGG--GCAATTGAAATGAACACAAATTAATACTCTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGTTTTATT-G
GG-CTA-----AGTTTTTTA-CCACTA-----G-TGGCTAAAA---C
AACTCCAATAAATCTTTTT-TT-----AATAG-CTCAGTTTCTAGG-TCTT-----TG
ACTCTAGTTAATTTG-----GGCATTTCAGTGTGAGAAAA-TTGTGGTGTT
TAAAGCA--GG-C---GTC---TC-GTCTGATCTTTTGCAGCATGGTATGATGGAACATG
ACAT---TTTACGC--TATTGGTTT--GCG---TCTAAAGTGAATGATTAATAGGGAT
GGATGGGGATGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTTCATAAATACTTCCCATTAATCAAGAACGAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCCACCAGGGATCGGTTA
AA--AT-TTTTTTAAAAATTTAGTCCGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATTC
CGGGGGGAGTATGGTCGCAAGTCTGAAA-TTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGAAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCATTGTCTGGTCAATTCCGATAACGGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTA-GTCAATATGGGCGATAGCTTTTCTGGGATTTAG-AGC
GATT---TC--GGTCGTT---TCT-GGTTTCAAGGAG---TGTGTAGTCTGACTTGA
TAG--GTACGAATTA---AAAA---A--CTTCTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTATAAAACAAAAAGGT----TCC-----TGGTCCGG-AAG---GA
TT-GGGTAATCAATGAAATTTTCTACGTAACTGGGATTG-ATCTTTGTAATTATTGATCA
TAAACGAGGAATTCCTTGTAAAGCGAGGTCAATACCTGTGCTGAATATGTCCCTGCCCT
TTGTACACACCGCCCGTCTCTACCGATCGAATGATACGGTAAAGTTAACGGATAG--
-----TTTT--ATCTTTGG-C-AAC-ATTGATA-----TAAA-TTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTTT

>MK322959.1 *Dictyostelium barbarae* 1_5

TCTAAG-TATAAATCTTG-TACGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTA-ATAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAAATGGCTACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTCTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGGTAATTCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGTTTTACT-G
GG-CTAA-----AGTTAATTTG-CCACTCT-----GGTGGTTAAAT---C
AACTCCAGTATTCCTTTTT-TT-----AATAG-CTCTGCTTCTAGCATCTT-----TG

ATGTTAGTTGTTT-----GGCATTTCCTGTGAGAAAA-TTGTGGTGT
TAAAGCA--GG-C---GTC---TC-GCCTGATCTTTGCAGCATGGTATGATGAAACATG
ACAT---TTTACGC--TATTGGTTT--GCG----TCTAAAAGTGTAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAAATACTTCCCATTAAATCAAGAACGAAAGTTTGGGGATC
GAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCGGTCA
AA--AT-TTTTTTAAAAATTTGATCGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATTC
CGGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATCCGATAACGGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTA-GCCGATATGGGCGATAGCTTCTCTGGGGTTTGG-AAT
GATT---TC--GGTCATC---TCC-TACTTCAAGGAG---TGTGTAGTCTGGCTTGA
TAG--GTACGAATTA---AAAAA-----CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGAAAACAAAAAGGC-----TCC-----TGGTCCGG-AAG---GA
TT-GGGTAATCATTGAAATTTCTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAGGTCATTACCCTGTGCTGAATATGTCCTGCCC
TTGTACACACCCCGTCGCTCCTACCGATCGAATGATACGGTAAAGTTAACGGATCG--
-----TTTT--ATCTGTGG-C-AAC-ACTGATA-----TAAA-CTA-AAAG--TTA
-TT-TAAATCT--C---ATT--GTTT

>MK322958.1 *Dictyostelium insulinitivitis*

TCTAAG-TATAAATCTTG-TACGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTA-ATAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTC--GGGTCTGT-GGT
GAAACCGAATAATATGACATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCACTGCCCTAACAATTTCGATGGTACGGTATTGGCCTACCATGGTGTAAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCAGCAGCCGCGTAAATCCAGCTCCAA-TA
GCATATACTAAAGTTGTTGAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGGTTTACT-G
GG-CTAA-----AGTTATTG-CCACTCT-----GGTGGTAAAT---C
AACTCCAGTATTCTTTTT-TT----AATAG-CTCTGCTTCTAGCATCTT-----TG
ATGTTAGTTGTTT-----GGCATTTCCTGTGAGAAAA-TTGTGGTGT
TAAAGCA--GG-C---GTC---TC-GCCTGATCTTTGCAGCATGGTATGATGAAACATG
ACAT---TTTACGC--TATTGGTTT--GCG----TCTAAAAGTGTAATGATTAATAGGGAT
GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGAA
CTTCTGCGAAAGCATTACCAAAATACTTCCCATTAAATCAAGAACGAAAGTTTGGGGATC
GAAGACGATCAGATACCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCGGTCA
AA--AT-TTTTTTAAAAATTTGATCGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATTC
CGGGGGGAGTATGGTCGCAAGTCTGAAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATCCGATAACGGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTA-GCCGATATGGGCGATAGCTTCTCTGGGGTTTGG-AAT
GATT---TC--GGTCATC---TCC-TACTTCAAGGAG---TGTGTAGTCTGGCTTGA
TAG--GTACGAATTA---AAAAA-----CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGAAAACAAAAAGGC-----TCC-----TGGTCCGG-AAG---GA
TT-GGGTAATCATTGAAATTTCTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGTAAAGCGCAGGTCATTACCCTGTGCTGAATATGTCCTGCCC
TTGTACACACCCCGTCGCTCCTACCGATCGAATGATACGGTAAAGTTAACGGATCG--
-----TTTT--ATCTGTGG-C-AAC-ACTGATA-----TAAA-CTA-AAAG--TTA
-TT-TAAATCT--C---ATT--GTTT

>AM168049.1 *Dictyostelium macrocephalum* B33

TCTAAG-TATAAATCTTG-TACGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTA-ATAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATACAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTC--GGGTCTGT-GGT
GAAACCGAATAATATGACATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCACTGCCCTAACAATTTCGATGGTACGGTATTGGCCTACCATGGTGTAAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCAGCAGCCGCGTAAATCCAGCTCCAA-TA
GCATATACTAAAGTTGTTGAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGGTTTACT-G
GG-CTAA-----AGTTATTG-CCACTCT-----GGTGGTAAAT---C
AACTCCAGTATTCTTTTT-TT----AATAG-CTCTGCTTCTAGCATCTT-----TG
ATGTTAGTTGTTT-----GGCATTTCCTGTGAGAAAA-TTGTGGTGT
TAAAGCA--GG-C---GTC---TC-GCCTGATCTTTGCAGCATGGTATGATGAAACATG
ACAT---TTTACGC--TATTGGTTT--GCG----TCTAAAAGTGTAATGATTAATAGGGAT

GGATGGGGGTGTTTCATATTGGTGGGCGAGAGGTGAAATTCGTTGACCCATCAAGATGAA
CTTCTGCGAAAGCATTACCAAATACTTCCCATAATCAAGAACGAAAGTTGGGGATC
GAAAGACGATCAGATACCGTCGTAGTCCAAACTATAAACTATGTCGACCAGGGATCGGTCA
AA--AT-TTTTTTAAAATTTGATCGGCACCTT-GTGAGAAATCAT-GAGTGTTTAGATTC
CGGGGGGAGTATGGTGCAGAGTCTGAACTTAAAGGAATTGACGGAAGGGCACACAATGG
AGTGGAG-CCTGCGGCTTAATTT-GACTCAACTCGGGAAA-ACTTACCAAGCTAAGATAT
AGTAAGGATTGACAGA-CTAA-AAGATCTTTCATGATTCTATAAGTGGTGGTGCATGGTC
GTTCTTAG-TTGGTGGAGCGATTTGTCTGGTCAATTCCGATAACGGACGAGACCTCGACC
TGCTAACTAGTAGTATTTATTA-GCCGATATGGGCGATAGCTTCTCTGGGGTTTG-AAT
GATT---TC--GGTCATC---TCC-TATTTCAAGGAG---TGTGTAGTCTGGCTTGA
TAG--GTACGAATTA---AAAAA-----CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
GCGG-AAGTCCGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTAGAAAACAAAAAGGC-----TCC-----TGGTCCGG-AAG--GA
TT-GGGTAATCATTGAAATTTCTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
TCAACGAGGAATTCCTTGAAGCGCAGGTCAATTACCCTGTGCTGAATATGTCCTGCCCT
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-----TTTT--ATCTGTGG-C-AAC-ACTGATA-----TAAA-CTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTTT

>MG490371.1 Dictyostelium multiforme 4009

-----TATAAATCTTG-TACGATGAAA----CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTA-ATAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAGAAG-CG-ATGGG-TGACTGGC-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCACTTCTACGGA
AGGCAGCAGGCGCGCAAAAT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAAATAAAACCTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCAGCAGCCGCGTAAATCCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTAAAAA-AGC-TCGTAGTTGAAGTTAAAGGTTTACT-G
GG-CTAA-----AGTTATTTG-CCGCTCT-----GGTGGTTAAAT---C
AACTCCAGTATCTCTTTTTT-TT----AATAG-TTCAGTCTTATTATCTT-----TG
ATAGTAGTTGTTT-----GACATTTCACTGTGAGAAAA-TTGTGGTGTT
TAAAGCA--GG-C--GTT--TC-GCCTGATCTTTGCAGCATGGTATGATGAAACATG
ACAT--TTTACGC--TATTGGTT--GCG----TCTAAAGTGTAATGATTAATAGGGAT
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TGCTAACTAGTAGTATTTATTA-GTCAATATGGGCGATAGCTTCTCTGGGGTTTG-AAT
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GCGCTACAATGTAGAAAACAAAAAGGT-----TCC-----TGGTCCGG-AAG--GA
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-----TTTT--ATCTTTGG-C-AAC-ATTGATA-----TAAA-CTA-AAA--TTA
-TT-TAAATCT--C----ATT--GTTT

>MG490370.1 Dictyostelium multiforme 4007

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GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
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TAAAGCA--GG-C--GTT--TC-GCCTGATCTTTGCAGCATGGTATGATGAAACATG
ACAT--TTTACGC--TATTGGTT--GCG----TCTAAAGTGTAATGATTAATAGGGAT
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-----TTTT--ATCTTTGG-C-AAC-ATTGATA-----TAAA-CTA-AAA--TTA
-TT-TAAATCT--C----ATT--GTTT

>MG490369.1 Dictyostelium_minimum

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TAAAGCA--GG-C---GTT---TC-GCCTGATCTTTTGCAGCATGGTATGATGAAACATG
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-TT-TAAATCT--C----ATT--GTTT

>AM168053.1 Dictyostelium_mucoroides_TNS_C_114

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GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
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>AM168065.1 Dictyostelium rosarium_M45

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GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT
GTCAGTCCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTGTAAACGGGTAA
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>AM168068.1 Dictyostelium sphaerocephalum_GR11

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>AM168034.1 Dictyostelium clavatum_TNS_C_189
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CAATACCTATCC--TT-AACGGAGG--GCAATTGAAATGAACACAAAATAAAACCTTAA
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>AM168048.1 Dictyostelium longosporum_TNS_C_109
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>AM168066.1 Dictyostelium septentrionale_IY49

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>AM168067.1 Dictyostelium septentrionale_AK2

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>AM168037.1 Dictyostelium crassaule_93HO_33

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>AM168050.1 *Dictyostelium medium* TNS_C 205

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-----TTTT--ATCTGTGG-C-AAC-ACTGATA-----TAAA-CTA-AAAG--TTA
-TT-TAAATCT--C---ATT--GTTT

>AM168055.1 *Dictyostelium mucoroides* var. *stoloniferum* FOII_1

TCTAAG-TATAAATCTTG-TACGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTA-ATAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGGCTAATACATAGAAG-CG-ATGGG-TGAC-GGC-----AAC-G---AA
GCTCAGCGATTATT---A-GCA-TTA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAGG-----ATT-TATCTTCGACAAGTCTACTGT

GTCAC T GCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGAATTAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AATGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
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GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGGTTTACT-G
GG-CTAA-----AGTTATTG-CCGCTCT-----GGTGGTTAAAT----C
AACTCCAGTATCTCTTTTCG-CTC----AATAG-TTCAGCTTGATCAACCT-----AG
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AA--AT-TTTTTAAAAATTTAATCGGCACCTT-GTGAGAAATCAC-GAGTGTTTAGATTC
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TGCTAACTAGTAGTATTTATTA-GTCAATGAGGGGATAGCTTTTCTGGGGTGGAG-AAC
GATT---TC--GGTCGCT---TCT-TACTTCAAGGAG---TGTGTAGTCTGACTTGA
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-----TTTT--ACCTTTGG-C-AAC-ATTGGTA-----TAAA-CTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTTT

>AM168028.1 *Dictyostelium aureum*_SL1

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---GT---GATAAACTG-CTAGACTTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAGAAG-CG-ATGGG-CGACTGGT-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TAA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
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GTCAC T GCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
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-----TTTT--ATCTTTGG-C-AAC-ATTGATA-----TAAA-TTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTTT

>AM167876.1 *Dictyostelium aureocephalum*_TNS_C_180

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-TT-TAAATCT--C---ATT--GTTT

>HQ141480.1 Dictyostelium leptosomum NZN49A

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>AM168032.1 Dictyostelium capitatum 9IHO_50

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GCTCAGCGATTATT---A-GCA-TAA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAAG-----ATT-TATCTTCGACAAGTCTAATGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
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>AM168059.1 Dictyostelium_pseudobrefeldianum_91HO_8

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>GQ496158.1 Dictyostelium_austroandinum

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>HM15992.1 Dictyostelium leptosomopsis Araucaria_1

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GCGG-AAGTCCGAGGCAATAACAGTCTGTGATGCCCTTAGATACCTT-GGGCCGCACGC
GCGCTACAATGTATAAAACAAAAAGGT----TCC-----TGGTCCGG-AAG---GA
TT-GGGTAATCAATTGAATTTTCTACGTAACCTGGGATTG-ATCTTTGTAATTATTGATCA
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-----TTTT--ATCTTTGG-C-AAC-ATTGATA-----TAAA-TTA-AAAG--TTA
-TT-TAAATCT--C----ATT--GTT-

>AM168054.1 Dictyostelium mucoroides S28b

TCTAAG-TATAAATCTTG-TACGATGAAA---CTGCAGACGGCTCATT--ACAA--CA
---GT---GATAAACTG-CTAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
CAGTAAATCGGGGCTAATACATAGAAG-CG-ATGGG-CGACTGGT-----AAC-G-G-AA
GCTCAGCGATTATT---A-GCA-TAA-CTA-CCAATAC--CTTC--GGGTCTTGT-GGT
GAAACCGAATAATATTGCAGATCGAAG-----ATT-TATCTTCGACAAGTCTAATGT
GTCACTGCCCTATCAACTTTCGATGGTACGGTATTGGCCTACCATGGTTGTAACGGGTAA
CGGGGAATTAGGGTTCGATTCGGAGAGGGAGCCTGAGAAAATGGCTACCACTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAATAAATAT
CAATACCTATCC--TT-AATGGAGG--GCAATTGAAATGAACACAAATTAATACTTTAA
TT-AACACAATTGGAGGGCAAGTCTGGTGCAGCAGCGCGGTAATTCAGCTCCAA-TA
GCATATACTAAAGTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAAGTTAAAGGTTTATT-G
GG-TCAA-----AGCTATTG-CCGCTCT-----GGTGGTTAAAT----A
TGCTCCAGTATTTCTTTTT-TTTGAAAAATTG-TTCAGCTTGATCAACTT-----TG
TTGGTACTCGTTT-----GACATTTCACTGTGAGAAAA-TTGTGGTGT
TAAAGCA--GG-C---GTC---TC-GCCTGATCTTTTGCAGCATGGTATGATGAAACATG
ACAT---TTTGCGC--TATTGGTTT--GCG----TCTAAAGTGTAATGATTAATAGGGAT
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GTTCTTAG-TTGGTGGAGCGATTTGCTGGTCAATTCCGATAACGGACGAGACCTCGACC
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GATT---TC--GGTCGTT---TCT-GGTTTCAAGGAG---TGTGTAGTCTGACTTGA
TAG--GTACGAATTA---AAAA---A--CTTCTTAGAGGGACTACCT-GCCTCAAGCAG
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-TT-TAAATCT--C---ATT--GTTT

>AM168030.1 *Dictyostelium_brefeldianum*_TNS_C_115

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---GT---GATAAACTG-CTAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
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>HQ141482.1 *Dictyostelium_mucoroides_sweden*_20

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>AM168043.1 Dictyostelium implicatum_93HO_1

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>GQ496159.1 Dictyostelium chordatum

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---GT---GATAAACTA-ATAGACTTTCGG-GTTTTT---AACCTTTT-GGATAACCG
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GG-TCAA-----AGTTATTTG-CCGCTCT-----GGTGGTTAAAT---A
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>JX173878.1 *Dictyostelium barbibulus* Sweden_4R

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>AM168057.1 *Synsteliium polycarpum* VE1b

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GTTCTTAG-TTGGTGGAGTGATTTGTCTAGGTC AATTCGGTAACGGACGAGACCTCGACC
TGCTAACTAGTGGGATTCATCTTTCG--ATTGACGAGGCAGGTATTGC-TTTGATTATA
G----GGGGCAACTTT----TATAGTCGGG-TAGTGCTTGTAT-TAGTCTGGGAGAG
TGG--GTTTCAAA-AATTTAAT---AATCTTCTAGAGGTACTTCTG-GCTCTAAGCCA

>MW660748 *Heterostelium pallidum*_5759_1_23_HMJAU_MR314
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---GT---GATAAACTA-AAGAACTTCCGC-GCTTC-----GGCGTCTT-GGATAACCG
CAGTAAATCGGGGCTAATACATATAAAA-CG-AGAGGGTGAGCGGG----CAACTGCG-AA
CCTTTGCGATTGTT---A-GCTATCTTTTT--CA--CCAACCTTTCGGAGTTTGTGGT
GAATCCGAACAATATTGCTGATCGAAA-----ATT-TATTTTCGACGAGTTCTTTGT
GTC ACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA
CGGGGAATCAGGGTTCGATTCGGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
AGGCAGCAGGCGCGCAAATT-ACTCAATCCCAATAC-GGGGAAGTAGTGACAAAAAATAC
TAATGCCTTTCATAT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCGTATACTAAAATTTGTTGCAGTTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TTAAGCCAGTCATAGTAGCTTT--CGGGTATTATGA-T-TTCGGTAAAGCTTTTG
AGTGGATTTTA-TTTTTCA-CTTTTAAAGTTA-CCAAGGATTCCAAGTGC-CCA--TG
TAAGCTGGCAACAGTTT--AC-AATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGTT
CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAATATG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGTAAATGACTAATAGGGAA
GGCGGGGCGCTTCAATTTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
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GATAAT-TTTTTAAAAACTCGCTCAGAACCTT-GTGAGAAATCAT-GAGTGTGGACTC
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TGCTAACTAGTGGTATTTATTTGGTCAATATGGAAGATAGTCATT-TGGTGTGGT-GTC
AGG----TCAAA---CTTG--GC-ATTCCTTATTGAG-TGGTGTGATTCTGGTCA
TAG--GTACTAACTAAAAAATA---AA-CTTCTTAGAGGGACTACCT-ACCTCAAGTGG
GGGGGAAGTCGGAGGCAATAACAGGTCTGTGATGCCCTTAGATACCTTTGGGCTGCACGC
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>MW660749 *Heterostelium pallidum*_5759_2_23_HMJAU_MR314
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CAGTAAATCGGGGCTAATACATATAAAA-CG-AGAGGGTGAGCGGG----CAACTGCG-AA
CCTTTGCGATTGTT---A-GCTATCTTTTT--CA--CCAACCTTTCGGAGTTTGTGGT
GAATCCGAACAATATTGCTGATCGAAA-----ATT-TATTTTCGACGAGTTCTTTGT
GTC ACTGCCCTATCAACTTTCGATGGTAAGGTATTGGCTTACCATGGTTGTAACGGGTGA

CGGGGAATCAGGGTTCGATTCCGGAGAGGGAGCCTGAGAAATGGCTACCCTTCTACGGA
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TAATGCCTTTCCATAT-TATGGGGG--GCAATTGGAATAAGTACAACCTAAATCGCTTAG
CA-AAAGTGATTGGAGGGCAAGTCTGGTGCCAGCAGCCGCGTAATTCCAGCTCCAA-TA
GCGTATACTAAATTTGTTGCAAGTAAAA-AGC-TCGTAGTTGAGATTGAGATTCTTG-G
GT-TTAAGCCAGTCATAGTACTTT--CGGGTTATTATGA-T-TTCGGTTAAAGCTTTTG
AGTGGATTTTA-TTTTTCA-CTTTTAAAGTTA-CCAAGGGATTCCAACCTGC-CCA--TG
TAAGCTGGCAACAGTTT--AC-AATC--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTACGTTTGTCAATGCAGCATGGTATAGTAAAAATAG
ACAC---TAAATATAT-GTTGGTTG-TATA---TTCT-TAGTGAATGACTAATAGGGAA
GGGCGGGGCCGTTTCATATTGATGGGCGAGAGGTGAAATTCGTTGACCCTATCAAGATGCA
CTACAGCGAAAGCATTTCGGCAAGTACTTCTCCATTAATCAAGAACGAAAAGTTTGGGGATC
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>MW857293 Heterostelium recretum_5756_1_17_HMJAU_MR315
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---GT---GATAAACTA-AAGAACTTCCGC-GCTTC-----GGCGTTTT-GGATAACCG
CAGTAAATCGGGCTAATACATGTAAA-CG-AGAGGATGAACGGG---CAACTGTG-AG
TCTTTGCGATTGTT---A-GCT-TTAAAT---CA--CCAACCTCTTCGGAGTCAGTGGT
GAATCCCTACAATATTGCTGATCGGAA-----ACT-TGTTCCGACGAGTTCTTTGT
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GT-TTAG--CGGTCAACTTTTTCGTTACCGGGTTAATG-TT-TGAT-ACGTAAAGCTTTAT
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GTAGCCAGCAATGGTTA--TC-AATA--GGGTGATCTACTGTGAGAAAA-TTGTAGTGT
CAAAGCA--GG-C---GTC---TTTCGTTTGTTCATGCAGCATGGTATAGTAAATATG
ACAC---TAAATATAT-GTTGGTTG-TATA---T-CT-TAGTGAATGACTAATAGGGAA
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GCGTTACAATGTAGGCGAGAAAAAGGT---TTCC-----GGAATCGA-AAG---GT
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TCAACGAGGAATTCCTTGTAAAGCGTAAATCATTACTTTACGCTGAATATGTCCTGCCCT
TTGTACACACCGCCGTCGCTCTACCGATCGAACGATTAGGTAATAACTGACGGACTA--
--GGC-GACTCT--TC---CGC-A-AGG-ATTTGTT-----GTT-TGG-GAAG--TTA
-GT-TAAATCT--C---ATT--GTT-

>X13160.1 Physarum polycephalum CL
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GTAACCATAGCAAGCAAGCGCGTTGTTGCCGCAAGGCGACGGCGCGTTACAGGGAT
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GGGCGGGGGTTGTGTGACCCAG---GTCGCAAATATTAACCTGGGAGTGGCCAC--ACGAT
CTGACCACCATAACAAACGGTTATCCGCTTCGAAAAGCTTCGGTGAGTAACGGCGGATTT
TGGGTGGCTCTCGTGTGTCTCTGACCTATCAACT--AGATGGCAGCGTAACGGACAT
GCCATGGTAACAACGGGTA-CAGAGGATAAGGGTTTCGATCCTGGAGAGTGGGCGTGAAG
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CGAGGGCGTTAGGGGACATATGAATGCCTGCCT-----TATGGTGG--GCAATCAAATG

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CGTAATCCAGCTCTAA-TAGCATACGTTAAAGTTGTTGCGGTTAAAA-CGC-TCGTAG
TCGGCTCCAGACCTT CAGA--GCCTTGATTTCGGGACACTGGGT CAGCTGCTCTTCTCAA
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G--TACCAATCACCATGATTA AAA-CCGTAGTGACCAAAGCA-----C---GTCT--TTAG
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GGCG-----T GACTCGGTA AAAAGCGAAAGGGATGTTTCGAGGGTGACCGAATTGCTGGC
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CTCAACACGGGAAA-ACTCACCAGGTCCGGATACACGTATGAAAGTCAAG-CTGA-AAGA
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----GCAAG-----ACAGGTTAGCTCGCCAC----CTGAAGTT-----ATG--
---CTTCTTAGACGTATCA----GAGCCGATAAGGTTCTTGAAATGGGTTAATAACAGGT
CAGTCATGCCCTTAGATGTTCT-GGGCCGCACGCGGTTACAATGGCATGTAAAACGAGT
GCT---TGAACAAGGCGTCCCACGGCCGAAA-GGTCGTGGTAACC--CTTAGTCCCTGC
TTTGACTGGGACAG-ATCTTTGCAATTATTGGTCTCAAACGAGGAATTTTTAGTAATCGC
AGGTCATTAACCTGCGTTGAATGCGTCCCTGCCCTTTGTACACACCCCGCCGTCGCTGCTA
CCGATTGGGTTTTACAGTTACGCGTTCGGAGGAC-----GATGTT---TTCGGGTCTT
AACGGGCTCCG-----GGGCGTCGG

Text S2. Alignment of *atp1* sequences on *Cavenderia* tree

>KF662075.1 *Cavenderia granulophora* CH11_4
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CGTGAGTTAATCATTGGAGATCGTCAAACAGGAAAAATCTTCAGTAGCTATTGATGCAATT
TTAAATCAAA---AAACTA--ATAAAGATATTGTT-----TGTGTTTATGTATCTGTAGG
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ATATAGTATTGTAGTAGTATCAACTGCATCAGATGCTTCTCCATTACAATTTTTAGCACC
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>MZ318389 *Cavenderia fasciculata* 5259_1_23_HMJAU_MR313
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CGTGAATTAATTATTGGAGATCGTCAAACAGGTAATCTTCAATTGCAATTGATGCAATC
TTAAATCAAA---AAACAA--ATAAAGATATTGTA-----TGTGTATACGTATCCGTAGG
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ATATAGTATTGTAGTAGTATCAACAGCGTCTGATGCATCTCCTTTACAATTTTTAGCACC
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>MZ318390 *Cavenderia fasciculata* 5754_2wang_23_HMJAU_MR313
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CGTGAATTAATTATTGGAGATCGTCAAACAGGTAATCTTCAATTGCAATTGATGCAATC
TTAAATCAAA---AAACAA--ATAAAGATATTGTA-----TGTGTATACGTATCCGTAGG
ACAAAAAAAATCAACAATTAGAAGATTAGTTGAAATGTTAAATGTTAAAGGTTCTTTAAA
ATATAGTATTGTAGTAGTATCAACAGCGTCTGATGCATCTCCTTTACAATTTTTAGCACC
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TCCTCCAGGAAGA

>KF662113.1 *Cavenderia* sp. TH18D_TH18D
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GAATCAATGTTAACAGGAGTAAAAATCGTAGATGCATTATTACCAATAGGAAGAGGACAA
CGTGAATTAATTATTGGAGATCGTCAAACAGGAAAAATCATCAGTAGCAATTGATGCAATT
TTAAATCAAA---AAACAA--ATAAAGATATTGTA-----TGTGTATACGTATCAGTAGG
ACAAAAAAAATCAACAATTAGAAGATTAGTAGAAATGTTAAATTTAAAAGGATCTTTAAA
ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCACCATTACAATTTTAGCACC
ATATACAGGATGTGCTATTGGAGAAATTTTCAGAGATAAAGGAGAACATGCTTTAATTAT
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TCCTCCAGGACGA

>KF662112.1 *Cavenderia aureostipes* AU7B
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CGTGAATTAATTATTGGAGATCGTCAAACAGGAAAAATCTTCAGTAGCAATTGATGCAATT
TTAAACCAAA---AAACAA--ATAAAGATATTGTA-----TGTGTATACGTATCAGTAGG
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ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCACCATTACAATTTTAGCACC
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>KF662123.1 *Cavenderia* sp. TH1A_TH1A
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TTAAACCAAA---AAACAA--ATAAAGATATTGTT-----TGTGTATATGTATCAGTAGG
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ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCACCATTACAATTTTAGCACC
TTATACAGGATGTGCTATTGGAGAATATTTTCAGAGATAAAGGAGAACATGCTTTAATTAT
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TCCACCAGGACGA

>KF662116.1 *Cavenderia aureostipes* B15A
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CGTGAATTAATTATTGGAGATCGTCAAACAGGAAAAATCTTCAGTAGCAATTGATGCAATT
TAAATCAAA---AAACAA--ATAAAGATATTGTA-----TGTGTATACGTATCAGTAGG
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ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCACCATTACAATCTTAGCACC
ATATACAGGATGTGCTATTGGAGAAATTTTCAGAGATAAAGGAGAACATGCTTTAATTAT
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>KF662117.1_Cavenderia_sp._TH39A_TH39A

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CGTGAATTAATTATTGGAGATCGTCAAACAGGAAAAATCTTCAGTAGCAATTGATGCAATT
TAAATCAAA---AAACAA--ATAAAGATATTGTA-----TGTGTATACGTATCAGTAGG
ACAAAAAAAATCAACAATTAGAAGATTAGTAGAAATGTTAAATTTAAAAGGATCTTTAAA
ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCACCATTACAATCTTAGCACC
ATATACAGGATGTGCTATTGGAGAAATTTTCAGAGATAAAGGAGAACATGCTTTAATTAT
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>KF662122.1_Cavenderia_myxobasis_NT2A

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CGTGAATTAATTATTGGAGATCGTCAAACAGGAAAAATCTTCAGTAGCAATTGATGCAATT
TAAACCAAA---AAACAA--ATAAAGATATTGTT-----TGTGTATATGTATCAGTAGG
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ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCACCATTACAATCTTAGCACC
TTATACAGGATGTGCTATTGGAGAAATTTTCAGAGATAAAGGAGAACATGCTTTAATTAT
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>KF662118.1_Cavenderia_aureostipes_Thai2C1

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>KF662110.1_Cavenderia_stellata_SAB7B

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ATATAGTATTGTAGTAGTATCAACAGCATCAGATGCATCCTTTACAATTTTAGCACC
ATATACAGGATGTGCAATTGGAGAAATTTTCAGAGATAAAGGAGAACATGCATTAATTAT
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>KF662120.1_Cavenderia_aureostipes_OH396

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TAAACCAAA---AAACAA--ATAAAGATATTGTT-----TGTGTATATGTATCCGTAGG
GCAAAAAAAAATCAACAATTAGAAGATTAGTCGAAATGTTAAATTTAAAAGGATCTTTAAA
ATATAGTATAGTAGTAGTATCAACAGCATCAGATGCATCCCCATTACAGTCTTAGCACC
TTATACAGGATGTGCTATTGGAGAAATTTTCAGAGATAAAGGAGAACATGCTTTAATTAT
TTATGATGATTTAAGTAAACATGCCGTAGCATACCGTCAAATGTCTTTATTATTAAGACG
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>KF662109.1_Cavenderia_aureostipes_var._helvetia_HM594

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TTATACAGGATGTGCAATTGGAGAAATTTTCAGAGATAAAGGAGAACACGCATTAATTAT
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>KF662100.1_Cavenderia aureostipes_var_helvetia_52A1

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TTATACAGGATGTGCAATTGGAGAAATTTTCAGAGATAAAGGAGAACACGCATTAATTAT
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>KF662099.1_Cavenderia aureostipes_var_helvetia_HM593

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>KF662115.1_Cavenderia aureostipes_CR6B1

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>KF662130.1 *Cavenderia aureostipes*_KP3

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Text S3. Alignment of *atp1* sequences on *Dictyostelium* tree

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>MZ318393_Dictyostelium_mucoroides_5735_3_23_HMJAU_MR303
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ACCACCAGGAAGA

>MZ318394_Dictyostelium_discoideum_5752_3_17_HMJAU_MR302
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ACCACCAGGAAGA

>MZ318395_Dictyostelium_discoideum_5751_1_23_HMJAU_MR302
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>AB000109.1_Dictyostelium_discoideum_AX3
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ACCACCAGGAAGA

>DQ336395.4 *Dictyostelium citrinum*

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ACCACCAGGACGA

>NC_002508.1 *Physarum polycephalum*

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GAA-CAATGTTAACTGGT-TATAAAATGTTGATTCTATGTTACCTAT-GGACGTGGTCAA
AGGGAAC TTATTGTTGGTGATCGT-AAACAGGTAAAAC TACTATTGCTAT-GATACTATT
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Text S4. Alignment of *atp1* sequences on *Heterostelium* tree

>MZ318386 *Heterostelium*_recretum_5756_1_17_HMJAU_MR315
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>MZ318387 *Heterostelium*_pallidum_5759_2_23_HMJAU_MR314
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>MZ318388 *Heterostelium*_pallidum_5759_1_23_HMJAU_MR314
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>AY700145.1 *Heterostelium*_pallidum_CK8
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>EU275726.1 *Heterostelium*_pallidum_PN500
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CGTGAGTTAATTATTGGAGATCGTCAAAACAGGAAAATCTGCGATTGCAATTGATGCTATT
TTAAATCAAA---AAACAA--ATAAAGATATTATT-----TGTGTATACGTATCTGTAGG
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ACCTCCAGGAAGA

>NC_002508.1 *Physarum*_polycephalum
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CCCACCAGGACGT

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