

**Table S4.** Secondary structural elements of BoMAPK proteins

<b>Gene name</b>	<b>Alpha Helix (%)</b>	<b>Extended Strand (%)</b>	<b>Beta Turn (%)</b>	<b>Random Coil (%)</b>
BoMAPK1	41.19%	15.99%	6.78%	36.04%
BoMAPK2	47.03%	13.24%	6.22%	33.51%
BoMAPK3	43.51%	12.97%	5.41%	38.11%
BoMAPK4.1	42.63%	14.48%	5.63%	37.27%
BoMAPK4.2	44.74%	13.75%	6.47%	35.04%
BoMAPK5	43.70%	12.87%	5.36%	38.07%
BoMAPK6.1	42.86%	13.78%	6.38%	36.99%
BoMAPK6.2	43.24%	12.80%	5.07%	38.89%
BoMAPK7	45.92%	14.95%	7.07%	32.07%
BoMAPK8.1	44.33%	10.82%	4.98%	39.86%
BoMAPK8.2	43.32%	13.01%	4.45%	39.21%
BoMAPK9	46.11%	11.38%	4.39%	38.12%
BoMAPK13	43.28%	15.05%	5.65%	36.02%
BoMAPK15	44.37%	10.75%	3.99%	40.90%
BoMAPK16.1	41.27%	10.93%	5.29%	42.50%
BoMAPK16.2	37.54%	15.76%	7.31%	39.40%
BoMAPK17.1	43.74%	12.94%	4.11%	39.22%
BoMAPK17.2	43.44%	12.50%	4.30%	39.75%
BoMAPK18.1	37.04%	11.46%	4.65%	46.84%
BoMAPK18.2	37.25%	11.58%	5.20%	45.97%
BoMAPK19.1	38.86%	10.87%	3.92%	46.35%
BoMAPK19.2	39.35%	11.42%	5.09%	44.14%
BoMAPK20.1	34.05%	16.79%	6.67%	42.50%
BoMAPK20.2	40.54%	13.14%	4.81%	41.51%