**Supplementary Table 5.** Performance of Ornstein–Uhlenbeck (OU) and Brownian motion (BM) models of genomic character evolution (2C, Cx, GC content) among early diverging and core Bromelioideae. Bold font indicates the best fitting model. Models with no values (“-“) failed to pass the model performance criteria.

| Character | Model  | lnL  | AIC  | AICc  | AICc weight |
|-----------|--------|------|------|-------|-------------|
| 2C        | BM1    | -62.5161 | 129.0322 | 129.1547 | 0.0000 |
|           | BMS    | **-23.1937** | **52.3874** | **52.6348** | **0.8901** |
|           | OU1    | -50.2777 | 106.5554 | 106.8028 | 0.0000 |
|           | OUM    | -49.8493 | 107.6985 | 108.1152 | 0.0000 |
|           | OUMA   | - | - | - | - |
|           | OUMV   | **-23.0935** | 56.1871 | 56.8187 | 0.1099 |
|           | OUMVA  | -30.9180 | 73.8361 | 74.7297 | 0.0000 |
| Cx        | BM1    | **18.26014** | **-32.52028** | **-32.38392** | 0.0000 |
|           | BMS    | 30.47079 | **-54.94158** | **-54.66572** | 0.0000 |
|           | OU1    | 60.96096 | **-115.9219** | **-115.6461** | 0.0062 |
|           | OUM    | 61.24457 | **-114.4891** | **-114.024** | 0.0028 |
|           | OUMA   | - | - | - | - |
|           | OUMV   | - | - | - | - |
|           | OUMVA  | - | - | - | - |
| GC        | BM1    | **-146.1360** | 296.2720 | 296.3970 | 0.0000 |
|           | BMS    | **-132.1206** | 270.2412 | 270.4938 | 0.0000 |
|           | OU1    | **-117.6816** | **241.3632** | **241.6158** | **0.6052** |
|           | OUM    | **-117.3284** | 242.6569 | 243.0824 | 0.2907 |
|           | OUMA   | - | - | - | - |
|           | OUMV   | **-117.2455** | 244.4909 | 245.1361 | 0.1041 |
|           | OUMVA  | - | - | - | - |