Microwave-Assisted Drying Characteristics of Biomass Recovered from Cell Cultures of *Taxus chinensis*

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In this study, we investigated the kinetics and thermodynamics of microwave-assisted drying and dehydration of plant cell Taxus chinensis. The efficiency of microwave-assisted drying increased with increasing drying temperature and power. When the experimental data were fitted to five empirical drying kinetic models of Newton, Page, Modified Page, Geometric, and Henderson-Pabis, the Page model was the most appropriate. The effective diffusion coefficient (3.445 × 10-9 ~ 7.163 × 10-7 m^2/s) and mass transfer coefficient (3.1529 × 10^{-5}~1.2895 × 10^{-2} m/s) increased with increasing drying temperature. The small Biot number (0.3890~0.7198) indicated that the process of mass transfer was externally controlled. The activation energy Ea of vacuum drying was found to be 68.9314 kJ/mol. Thermodynamic parameters revealed the endothermic, irreversible and spontaneous nature of drying.