

## Kinetic and Thermodynamic Studies of the Fractional Precipitation of (+)-Dihydromyricetin

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The study was conducted to investigate the effect of time and temperature on the fractional precipitation of (+)-dihydromyricetin. In addition, kinetic and thermodynamic studies of precipitation were performed. The yield of 4, 7, 10°C increased with the increase of time and reached equilibrium at 28 h. However, the yield of -10, 18°C increased until 32 h. It was confirmed through the time-temperature-transformation (TTT) diagram that the precipitation was carried out faster at 4°C than other temperatures in the same yield range. When applied to the experimental data on JMAK equation, 4, 7, 10°C were made up one straight line and -10, 18°C were made up two straight lines. Thermodynamic analysis was performed based on 4, 7, 10°C. The standard gibbs free energy, standard enthalpy and standard entropy change were determined to be negative. These results indicate that the fractional precipitation process is spontaneous, exothermic and irreversible in nature. Acknowledgment This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (Grant Number: 2015016271)