

High-Pressure Phase Behavior of Adefovir Dipivoxil in Supercritical Carbon Dioxide

김형건, 임준혁, 김우식¹, 유기풍, 임종성*
서강대학교; ¹경희대학교
(limjs@sogang.ac.kr*)

Adefovir dipivoxil is used for treatment of hepatitis B and herpes simplex virus infection. Adefovir dipivoxil was approved by the US FDA in 2002 for the treatment of chronic hepatitis B. It is also active on viruses such as CMV(Cytomegalovirus).

For pharmaceutical purpose, adefovir dipivoxil were recrystallized into nano size particle. The recrystallized adefovir dipivoxil particles can be used various pharmaceutical researches. For getting more effectiveness and setting suitable process parameters of RESS(Rapid Expansion of Supercritical Solutions) experiment, we measured solubility data of adefovir dipivoxil in supercritical carbon dioxide.

In this study, the cloud points of adefovir dipivoxil in supercritical carbon dioxide were investigated as functions of pressure, temperature, and concentration of adefovir dipivoxil. We measured cloud points of adefovir dipivoxil in supercritical carbon dioxide using the high-pressure variable volume view cell apparatus. The high-pressure phase behavior of adefovir dipivoxil in supercritical carbon dioxide were observed at each concentration 0.1 - 1.0 wt %.