地黄真空红外辐射干燥过程中梓醇降解动力学研究 Degradation Kinetics of Catalpol in Rehmanniae during Vacuum Infrared Radiation Drying

朱文学 刘云宏 马海乐

河南科技大学

关键词： 地黄 梓醇 真空红外辐射干燥 降解动力学

摘 要： 以地黄为真空红外辐射干燥试验的原料，在确定地黄中梓醇提取方法为超声+冷浸工艺的基础上，进行了干燥过程中梓醇降解动力学研究。结果表明：地黄真空红外辐射干燥中梓醇降解动力学不符合零级和一级反应动力学。通过对一级反应动力学方程引入一个与辐射板温度有关的参数gT，并假设降解速率参数k符合Arrhenius方程，建立了地黄中有效成分梓醇在真空红外辐射干燥过程中的降解动力学模型方程，验证结果表明，该方程模拟效果较好。

Rehmanniae was chosen as the experimental material. The extraction method of catalpol in Rehmanniae was achieved via supersonic treatment followed by methanol extraction, and extraction time was decided thereafter. The results showed that degradation kinetics of catalpol in Rehmanniae during vacuum infrared radiation drying did not follow zero order or first order kinetics regulations. The degradation kinetics model of catalpol in Rehmanniae was established through introducing a parameter gT related to the radiation heater’s temperature, assuming that the parameters of degradation rate k agreed with Arrhenius equation. The test result showed that the model was a good fit for the experimental data.

查看全文（请使用Adobe Acrobat 6.0版本浏览） 返回首页 引用本文