

عنوان مقاله:

Ultrasound-assisted synthesis of ethyl butyrate using Amberlyst 15dry

محل انتشار:

اولین کنگره بین المللی و بیست و چهارمین کنگره ملی علوم و صنایع غذایی ایران (سال: 1395)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Fereshteh Nemati - *Department of Food Science and Technology, School of Agriculture, Shiraz University*

Mohammad-Taghi Golmakani - *Department of Food Science and Technology, School of Agriculture, Shiraz University*

Mehrdad Niakousari - *Department of Food Science and Technology, School of Agriculture, Shiraz University*

Alireza Sardarian - *Department of Organic Chemistry, School of Chemistry, Shiraz University*

خلاصه مقاله:

One of the systems that can obtain esterification reaction is ultrasound. The present work illustrates synthesis of ethyl butyrate from ethanol and butyric acid, using ultrasound in solvent free system. The optimization of various parameters including temperature (30 °C, 50 °C, and 70 °C), Amberlyst reuse (7 repetitive cycles), molar ratio (1:1, 2:1 and 1:2), catalyst loading (2%, 4% and 6%) and time (2 h, 4 h and 6 h) of reaction affecting the synthesis of ester in presence of Amberlyst 15 dry was done. The optimum condition was temperature of 70 °C, alcohol:acid molar ratio of 1:1, 2% catalyst loading and 6 h time required for the reaction. It is clear from the experiments that the Amberlyst could sustain ultrasonic environment serving improved yield in less time and the synthesis is executed in the solvent free system that contributes the production of flavour in greener way.

کلمات کلیدی:

Amberlyst 15dry, Ethyl butyrate, Optimization, Solvent free, Ultrasound

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/574137>

