

Highly-Efficient Photoreaction Using Microfluidic Device

Authors : Shigenori Togashi, Yukako Asano

Abstract : We developed an effective microfluidic device for photoreactions with low reflectance and good heat conductance. The performance of this microfluidic device was tested by carrying out a photoreactive synthesis of benzopinacol and acetone from benzophenone and 2-propanol. The yield reached 36% with an irradiation time of 469.2 s and was improved by more than 30% when compared to the values obtained by the batch method. Therefore, the microfluidic device was found to be effective for improving the yields of photoreactions.

Keywords : microfluidic device, photoreaction, black aluminum oxide, benzophenone, yield improvement

Conference Title : ICCBEE 2014 : International Conference on Chemical, Biological and Environmental Engineering

Conference Location : Amsterdam, Netherlands

Conference Dates : August 07-08, 2014