

Effect of zeta potential on fractional precipitation of (+)-Dihydromyricetin

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This study evaluated the influence of the zeta potential of silica-alumina on the fractional precipitation behavior of (+)-dihydromyricetin. The optimal silica-alumina amount (surface area per working volume of reacting solution) for zeta potential control was 100 mm⁻¹. As the zeta potential value of silica-alumina increased, (+)-dihydromyricetin yield and precipitate size were increased. The use of silica with the highest value of the zeta potential (+ 4.99 mV) as a zeta potential-controlling material increased the (+)-dihydromyricetin yield by 2-fold compared with that of the use of alumina with the lowest value of the zeta potential (-19.00 mV). In addition, the (+)-dihydromyricetin yield and precipitate size was inversely correlated with the absolute value of the zeta potential. On the other hand, the purity of (+)-dihydromyricetin had almost no effect on changes in the zeta potential of silica-alumina. 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).