

Synthesis of Caffeic Acid Esters as Antioxidants by Esterification via
Acyl Chlorides

Chen, W. K. ; Liao, P. H. ; Tsai, C. F. ; Lee, Yean-Jang

Abstract

As part of our search for new compounds with improved antibiotic, antiviral, anti-inflammatory and tumor growth inhibition activities, we prepared some caffeic acid esters from commercially available caffeic acid. The rapid total synthesis of caffeic acid esters is described. Highlights of the synthesis include esterification with pyridine catalyst and thermal esterification of acyl chlorides and alcohols in nitrobenzene. Several strategies to accomplish this goal are provided. Finally, CAPE (caffeic acid phenylethyl ester) quenched the free radicals as a phenolic antioxidant.

Key words : Caffeic acid phenethyl ester; Antioxidant; Esterification