ABSTRACT

Synthesis and Charactization Inulin-Quercetin as Drug Delivery

Ferdi Henfi Pratama

Inulin is a polymer that could nit be degraded by the human digestive system so inulin can be used as a drug delivery. Therefore, inulin Grafted quercetin potential for colon cancer treatment. This study aims to synthesize quercetin grafted inulin in mass variations of quercetin, characterization, and determine its antioxidant activity. Quercetin grafted inulin synthesis using ascorbic acid and hydrogen peroxide redox system under oxygen-free conditions. Antioxidant activity was determined by using the DPPH method. The grafting ratio quercetin grafted inulin was determined by the Folin-Ciocalteu method, The results showed that the optimal ratio of quercetin grafted inulin was 735.98 mg QE/g. The UV-Vis spectrum of quercetin grafted inulin was maximal at 329 nm. FTIR spectrum of quercetin grafted inulin showed new absorption wavelength between 1608-1447 cm-1 (C=C from the aromatic ring). This indicates inulin was successfully grafted quercetin. The antioxidant activity of quercetin grafted inulin as IC50 value was 4.81 mg/L.

Key words : DPPH, Folin-Ciocalteu, Inulin, Inulin-quercetin, Quercetin.