ABSTRACT

Metabolite Profiling Study at each stage of 70% Ethanol Extract Capsule Production Process from Gandarusa Leaves (*Justicia gendarussa* Burm.f.)

Thirty-five metabolites of *Justicia gendarussa* leaves and its preparations were identified using UHPLC-UHR-QTOF-MS. Although alkaloids were detected in the leaves they were not identified in each stage capsule production process from Gandarusa Leaves using Smart Formula 3D software. This showed that an acidified extraction process used at the first stage of the purification procedure is able to remove the toxic alkaloids from the crude drug. The BPCs showed that the main components of *Justicia gendarussa* preparations were fatty acids and apigenin glycosides; it seemed that the fatty acids can be used for enhancing the dissolution of the polar glycosides. T-test calculation using Profile Analysis software showed that the acidified crude drugs, extract, granules, and *Justicia gendarussa* capsules showed very similar metabolite profiles, which means that the biochemical components of *Justicia gendarussa* are relatively stable during processing. Due to the lack of quality markers for these *Justicia gendarussa* preparations, the application of metabolite profiling is recommended as the QC tool for commercial production by the Pharmaceutical Industry.

Keywords: Alkaloids, Apigenin glycosides, Extract of Gandarusa, Gandarusa capsules, *Justicia gendarussa*, LC MS/MS profiling.