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Identifikasi Senyawa *Curcumin, Bisdemethoxycurcumin* dan *Demethoxycurcumin* Rimpang *Curcuma xanthorrhiza* Roxb. dan *Curcuma longa* L. dengan ^{1}H NMR

Identification of *Curcumin* compounds, *Bisdemethoxycurcumin,* and *Demethoxycurcumin* Rhizome *Curcuma xanthorrhiza* Roxb. and *Curcuma longa* L. using ^{1}H NMR

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Abstract: *Curcumin* and its derivates (*Bisdemethoxycurcumin, Demethoxycurcumin*) are natural dyes found in *Curcuma xanthorrhiza* dan *Curcuma longa*. Parmacologic evidence suggests all three are antioxidant, antiinflamatory, and anticancer. The objective of this research was to identify and measure the intensity of *Curcumin* compounds, *Bisdemethoxycurcumin*, and *Demethoxycurcumin* rhizome *C. xanthorrhiza* and *C. longa* by using ^{1}H NMR spectra. Rhizome *C.xanthorrhiza* and *C. longa* collected from Wonogiri, Central Java. The rhizomes were dried in the oven at 40 °C and were powdered using a blender. The dried powder sample was extracted using methanol-d_4 containing 0.01% TMSP and followed by ultrasonication for 15 minutes. The supernatant was separated from the solution by 10.000 rpm centrifugation for 10 minutes. The supernatant was transferred to NMR tube and analysed by using JEOL 500 MHz NMR. The obtained data were analysed by Mnova 12 software and Simca 14. Results of comparsion of ^{1}H NMR spectra of both rhizomes with reference were identified *Curcumin, Bisdemethoxycurcumin, Demethoxycurcumin* compounds. The highest intensity all of three compound was found in *Curcuma longa* and with *One way* Anova test result obtained $p<0,05$. The two rhizomes show a good separation on the OPLS-DA *scoreplot* with Q2 82,1% indicating a good model. The study showed that *Curcumin, Bisdemethoxycurcumin, Demethoxycurcumin* compounds were found in both rhizomes and had different intensity.

Keywords: *Bisdemethoxycurcumin, Curcuma longa,Curcuma xanthorrhiza, Curcumin, Demethoxycurcumin*

Keterangan: Jurnal tidak terbit.