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Tga Analysis on the Decomposition of Active Material of Aquilaria Malaccencis

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Abstract : This study describes the series of analysis conducted after the use of Vacuum far Infra Red. Parameter including the constant drying temperature at 40°C with pressure difference (-400 bar, -500 bar and -600 bar) and constant drying pressure at -400 bar with difference temperature (40°C, 50°C and 60°C). The dried leaves with constant temperature and constant pressure is compared with the fresh leaves via several analysis including TGA, FTIR and Chromameter. Results indicated that the fresh leaves shows three degradation stages while temperature constant shows four stages of degradation and at constant pressure of -400 bar, five stages of degradation is shown. However, at the temperature constant with pressure -500 bar, five degradation stages are identified and at constant pressure with temperature 40°C, three stage of degradation is presence. It is assumed that it is due to the difference size of the sample as the particle size is decrease, the peak temperature shown in TG curves is also decrease which lead to the rapid ignition. Based on the FTIR analysis, fresh leaves gives the high presence of O-H and C=O group where both of the constant parameters give the absence of those due to the drying effects. In color analysis, the constant drying parameters (pressure and temperature) both shows that as the temperature increases, the average total of color change is also increases.

Keywords : chromameter, FTIR, TGA, Vaccum far infrared dying
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