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Optimization of the Synthesis of Mikanecic acid diesters with different catalyst using the Taguchi method

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Abstract: This research presents a study of the Taguchi design application to synthesis of a terpenoid, Mikanecic acid diester using different catalyst. The present study includes catalyst, temperature and reaction time as control factors. An orthogonal array of L9 was used and the ANOVA analyses were carried out to identify the significant factors affecting the synthesis of a, Mikanecic acid diester. The yield of synthesis of mikanecic acid diester can be significantly enhanced by optimization of the synthetic process factors. The Taguchi method provided a systematic and efficient methodology for this optimization, with less effort then would be required for most other optimization techniques.

Key Words: Mikanecic acid diester, K₂CO₃, KI, Kaolin clay, optimization, ANOVA, Taguchi method.

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