Sintesis, uji solubilitas, dan koefisien partisi senyawa analog baru kurkumin, kurkumin pirazol di-mannich dimetilmorfolin = Synthesis, solubility test, and partition coeffiecient of new curcumin analogue compound, curcumin pyrazole dimannich dimethylmorpholine

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Abstrak

[ABSTRAK
Kurkumin merupakan senyawa yang dikenal memiliki aktivitas farmakologis luas dan relatif aman Tetapi kurkumin memiliki bioavailibilitas rendah yang disebabkan karena rendahnya kelarutan kurkumin dalam cairan biologis tubuh Dalam penelitian ini dilakukan modifikasi struktur kurkumin menjadi kurkumin pirazol di Mannich dimetilmorfolin KPMDMM dengan penambahan 2 gugus basa Mannich dimetilmorfolin dan siklisasi diketon menjadi cincin pirazol Hasil sintesis kemudian diuji solubilitas dan koefisien partisinya Hasil sintesis mendapatkan yield sebesar 72 50 yang dikonfirmasi oleh spektra IR dan NMR Dari hasil uji solubilitas dan koefisien partisi KPMDMM memiliki nilai kelarutan 1 61 ppm dan logP 1 71 dalam air dan 9 16 ppm dan logP 1 94 larutan dapar fosfat pH 7 4 <hr>
ABSTRACT
Curcumin is a compound that has a broad pharmacological activity and relatively safe But curcumin shows a poor bioavailability caused by poor solubility in biological fluid In this study I have carried out a modification of curcumin structure into curcumin pyrazole di Mannich dimethylmorpholine KPMDMM by added 2 base Mannich dimethylmorpholine groups and cyclization of di ketone into pyrazole ring The product is then performed solubility test and it rsquo s partition coefficient The yield of product is 72 50 confirmed by IR and NMR spectra Based on solubility test and partition coefficient KPMDMM showed solubility value 1 61 ppm and logP 1 71 in water and 9 16 ppm and logP 1 94 buffer phosphate solution pH 7 4 , Curcumin is a compound that has a broad pharmacological activity and relatively safe But curcumin shows a poor bioavailability caused by poor solubility in biological fluid In this study I have carried out a modification of curcumin structure into curcumin pyrazole di Mannich dimethylmorpholine KPMDMM by added 2 base Mannich dimethylmorpholine groups and cyclization of di ketone into pyrazole ring The product is then performed solubility test and it rsquo s partition coefficient The yield of product is 72 50 confirmed by IR and NMR spectra Based on solubility test and partition coefficient KPMDMM showed solubility value 1 61 ppm and logP 1 71 in water and 9 16 ppm and logP 1 94 buffer phosphate solution pH 7 4]