

# Sintesis parasetamol dari p-aminophenol dan asam asetat glasial menggunakan katalis berbasis bentonit alam = Synthesis of paracetamol (acetaminophen) from p-aminophenol and acetic acid glacial using catalysts based on natural bentonite (montmorillonite)

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## Abstrak

Parasetamol merupakan salah satu obat yang paling banyak dikonsumsi masyarakat. Keterbatasan asam asetat anhidrida (AAA) sebagai bahan baku sintesis parasetamol memicu pengembangan reaksi alternatif berbahan baku asam asetat glasial (AAG) dengan memanfaatkan katalis berbasis bentonit alam.

Pengembangan reaksi alternatif ini diawali dengan preparasi katalis, karakterisasi katalis, penentuan katalis terbaik, dan penentuan kondisi operasi dengan melakukan variasi kondisi meliputi suhu, perbandingan molar p-aminophenol (PAP) dan AAG, dan waktu reaksi.

Preparasi bentonit ini menghasilkan 4 jenis katalis, yaitu BA (bentonit alam), BS (bentonit sintetis), HB (H-bentonit), dan ZnB (Zn-Bentonit). Berdasarkan persentase terkonversi, diperoleh dua katalis terbaik untuk reaksi alternatif pada sintesis parasetamol, yaitu BA (dengan konversi PAP 71,79 %) dan BS (dengan konversi PAP 58,20 %).

.....Paracetamol is commonly and widely used by people as analgesic and antipyretic. The lack of acetic anhydride (AAA) as material in synthesis of paracetamol encourage an alternative method in reaction using acetic acid glacial (AAG) as primary reacting material with natural bentonite as catalyst.

The alternative reaction consist of catalyst preparation, characterization of catalyst, choice of best catalyst, and choice of operation condition with all variation condition in temperature, molar ratio of p-aminophenol and AAG, and reaction time.

Preparation of bentonite gets four kinds of catalyst, which are BA (natural bentonite), BS (activated bentonite), HB (H-bentonite), and ZnB (Zn-bentonite). Concerning the percentage conversion, two best catalysts for this alternative reaction are BA (71.79 %-conversion based on PAP) and BS (58.20 %-conversion based on PAP).