BAB V
KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan penelitian yang sudah dilakukan, ada beberapa kesimpulan yang dapat diambil.

1. Pelarut pati yang paling baik dalam pembuatan katalis ini adalah air. Pada penggunaan pelarut diklorometana dan $ZnCl_2$ tidak terjadi gelatinasi dikarenakan reaksi kuat antara asam sulfat dengan pati sehingga pati terdegradasi.
2. Asam sulfat memberikan performa katalis yang lebih baik dibandingkan dengan TsOH pada rasio mol yang sama.
3. Rasio mol asam sulfat berbanding pati mempengaruhi performa pada katalis.
4. Semakin banyak kandungan asam sulfat pada katalis pati akan meningkatkan performa katalis.
5. Rasio mol asam sulfat berbanding pati yang paling efisien adalah dengan perbandingan 1:1 jika dilihat dari perolehan glukosa dan konversi esterifikasi.
6. Proses pencucian dengan aseton akan memberikan hasil performa katalis yang lebih baik dibandingkan dengan pencucian dengan air.

6.2 Saran

Saran untuk penelitian selanjutnya adalah dengan mengganti metode penelitian untuk sintesis katalis menggunakan pelarut diklorometana dan $ZnCl_2$ untuk memastikan tidak ada pengaruh kondisi percobaan (suhu, urutan penuangan) terhadap katalis yang dihasilkan. Saran lain nya adalah melakukan uji *acid site density* agar dapat melihat jumlah asam yang menempel pada katalis. Saran lainnya adalah melakukan uji karakteristik katalis seperti BET (untuk menguji luas permukaan dan pori katalis), TGA (untuk menguji ketahanan termal), dan FTIR (untuk melihat kandungan gugus dalam katalis) untuk dapat mengetahui secara spesifik karakter katalis yang dihasilkan. Hal ini dilakukan agar didapatkan spesifikasi katalis yang akurat sehingga dapat diketahui pada proses mana saja katalis ini dapat dipakai dan menghasilkan performa terbaik.

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