

## **BAB V**

### **KESIMPULAN DAN SARAN**

#### **5.1 Kesimpulan**

Melalui penelitian yang telah dilakukan, dapat ditarik kesimpulannya sebagai berikut:

1. Peningkatan waktu ikatan silang berpengaruh pada peningkatan stabilitas katalis yang dapat dilihat pada hasil konversi esterifikasi asam lemak dan analisis yang sudah dilakukan.
2. Peningkatan temperatur pemanasan berpengaruh pada peningkatan stabilitas katalis yang dapat dilihat pada hasil konversi esterifikasi asam lemak dan analisis yang sudah dilakukan.
3. Waktu pemanasan yang lebih singkat menghasilkan katalis yang lebih baik karena dapat menghindari degradasi gugus -OH pada katalis dari paparan kondisi asam yang dapat menyebabkan degradasi jika pemanasan berlangsung lebih lama.
4. Katalis PVA/SSA/GA memiliki peluang komersial jika dilihat dari kestabilan dalam bentuk recyclability, selektivitas, serta jika dilihat dari perbandingan hasil konversi esterifikasi asam lemak dengan katalis DPT-3.

#### **5.2 Saran**

Hal yang perlu diperhatikan untuk penelitian selanjutnya adalah sebagai berikut:

1. Perlu dilakukan variasi glutaraldehida pada percobaan untuk melihat pengaruh dari konsentrasi glutaraldehida pada katalis PVA/SSA.
2. Penggunaan larutan glutaraldehida yang murni sebagai agen ikatan silang perlu dilakukan untuk melihat pengaruhnya terhadap esterifikasi dan analisis katalis lainnya.
3. Pencucian katalis setelah diikat silang dan dipanaskan perlu dicari cara yang lebih efektif dan efisien dari waktu hingga penggunaan bahan.
4. Pembuatan katalis film bisa digantikan dengan metode ekstrusi sehingga lebih efisien dari segi waktu.

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