BAB V
KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan hasil percobaan yang telah dilakukan dapat ditarik kesimpulan sebagai berikut:

1. Modifikasi xanthan gum dengan reaksi transesterifikasi menggunakan *vinyl laurate* dalam pelarut CO_2 bertekanan berhasil dilakukan ditandai dengan munculnya gugus C = O pada produk xanthan laurat.
2. Derajat substitusi terendah dan tertinggi masing – masing sebesar 4,59 dan 7,09 dari batas maksimal 13.
3. Pengaruh tekanan pada hasil penelitian ini adalah semakin besar tekanan reaksi, semakin tinggi nilai DS produk xanthan laurat.
4. Rasio katalis basa (K_2CO_3) tidak berpengaruh secara signifikan terhadap peningkatan nilai DS produk xanthan laurat.
5. Reaksi transesterifikasi ini, mengubah morfologi struktur menjadi lebih besar dan beraglomerasi, tidak mengubah sifat kristalin sehingga produk masih bersifat amorf, dan terjadi peningkatan kestabilan termal.

5.2 Saran

1. Penelitian ini perlu dikaji lebih lanjut terkait kondisi yang paling optimal untuk mendapatkan produk dengan nilai DS paling besar.
2. Penentuan nilai derajat substitusi dapat menggunakan analisis ^{1}H-NMR untuk mendapatkan hasil yang lebih akurat.
3. Produk xanthan laurat perlu dianalisis lebih lanjut terkait sifat mekanik, *solubility test* guna memperoleh produk yang memenuhi syarat untuk digunakan sebagai plastik.

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