BAB V
KESIMPULAN DAN SARAN

Berdasarkan penelitian yang telah dilakukan dan laporan yang telah dituliskan, berikut adalah kesimpulan dan saran yang dapat diambil.

5.1 Kesimpulan

Berdasarkan tujuan dan hasil penelitian yang sudah dituliskan pada Bab 1 dan Bab 4 secara berturut-turut, berikut adalah kesimpulan yang dapat diambil.

1. Modifikasi fisika pada *xanthan gum* dengan menggunakan pelarut CO_2 superkritik pada tekanan dan temperatur tinggi tidak menghasilkan perubahan struktur dan tidak terlihat adanya perubahan *glass transition temperature* (T_g).
2. Terdapat titik maksimum pada rasio reagen 5 mol minyak/ mol XGU yang menghasilkan nilai EC tertinggi.
3. Seiring dengan kenaikan temperatur reaksi, nilai EC yang didapatkan semakin tinggi.
4. Terdapat perubahan struktur pada *xanthan gum* termodifikasi secara kimia yang ditandai dengan meningkatnya absorbansi gugus karbonil dan menurunnya absorbansi gugus hidroksil.
5. Modifikasi kimia pada *xanthan gum* dengan reagen minyak kelapa sawit menyebabkan menurunnya nilai kristalinitas pada produk *xanthan gum* termodifikasi.
6. Modifikasi kimia pada *xanthan gum* menyebabkan adanya perubahan jarak antara partikel *xanthan gum* menjadi lebih dekat.
7. Modifikasi kimia pada *xanthan gum* menyebabkan produk yang dihasilkan menjadi semakin stabil terhadap termal yang ditunjukkan dengan meningkatnya temperatur degradasi dan semakin sedikitnya massa yang hilang selama pemanasan.

5.2 Saran

Berdasarkan penelitian yang telah dilakukan, berikut adalah saran yang dapat

diberikan untuk penelitian berikutnya.

1. Perlu dilakukan karakterisasi lebih lanjut pada modifikasi fisika *xanthan gum* dalam fluida CO_2 superkritik dengan menggunakan analisis FTIR dan DSC *in situ*.
2. Perlu dilakukan optimasi kondisi reaksi modifikasi kimia pada *xanthan gum* yang menghasilkan nilai EC yang lebih tinggi.

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