BAB V
KESIMPULAN DAN SARAN

5.1 Kesimpulan

Kesimpulan yang diperoleh dari penelitiaan ini adalah :

1. Prosedur modifikasi terbaik untuk penentuan sifat kimia dan fungsional pati tapioka sitrat adalah metode pereaksian kering.
2. Semakin tinggi suhu reaksi, pH, dan reagen asam sitrat yang ditambahkan dalam proses modifikasi, maka nilai derajat substitusi (DS) yang dihasilkan akan semakin besar.
3. Nilai derajat substitusi (DS) yang dihasilkan untuk variasi konsentrasi reagen asam sitrat 1, 5, dan 10 %, suhu reaksi 60, 80, dan 100^{o}C, serta pH reaksi 3 dan 5 memiliki rentang DS 0,0071 – 0,1997.
4. Berdasarkan variasi yang dilakukan pada penelitian ini, diperoleh bahwa semakin tinggi nilai DS maka akan diikuti oleh peningkatan nilai derajat *cross-linking* yang dapat dilihat melalui sifat fungsional yang dihasilkannya.
5. Variasi terbaik pada penelitian ini adalah saat konsentrasi reagen asam sitrat 10 %, suhu reaksi 100^{o}C, dan pH 3 dengan nilai DS sebesar 0,1997.
6. Modifikasi secara *cross-linking* dapat merubah sifat fungsional dari pati tapioka, yaitu daya serap air yang semakin meningkat, sedangkan semakin berkurangnya kemampuan mengembang, daya serap minyak, dan kejernihan pasta pati.
7. Hasil analisis sifat kimia dan sifat fungsional pati tapioka sitrat menunjukkan bahwa pati tapioka sitrat yang dihasilkan dapat digunakan sebagai *food thickener.*

5.2 Saran

Saran yang dapat diberikan dari penelitian ini adalah :

1. Perlu dilakukan analisis viskositas untuk dapat menghitung nilai derajat cross-linking secara persis sebagai spesifikasi dari *food thickener.*
2. Analisis karbohidrat perlu dilakukan dengan metode yang lebih akurat seperti metode *Luff-Schoorl*, bukan hanya dengan menggunakan metode *by difference* karena kelemahan metode ini adalah kadar karbohidrat yang terukur hanya berasal dari pengurangan total padatan terukur dikurangi dengan kadar lemak, protein, abu,

dan air sehingga terdapat kemungkinan adanya pengotor lain yang tidak terhitung sehingga kadar karbohidrat menjadi tidak akurat.

3. Proses pemisahan dengan cara dekantasi memberikan kesulitan terutama dalam analisis daya serap minyak, karena bisa saja sampelnya ikut terbuang yang mengakibatkan pengukuran menjadi tidak akurat.

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