

## BAB V

### KESIMPULAN DAN SARAN

#### 5.1 Kesimpulan

Berdasarkan penelitian asetilasi *Konjac* glukomanan, dapat disimpulkan bahwa :

1. Pelarut yang dapat digunakan bagi peneliti untuk reaksi asetilasi adalah etanol 96% (b/b).
2. Semakin rendah pH dan semakin besar rasio asetat anhidrida : AGU (mol/mol) maka derajat substitusi akan semakin tinggi. Namun pengaruh rasio asetat anhidrida tidak terlalu signifikan karena rasio asetat anhidrida : AGU bernilai kecil.
3. pH dan rasio asetat anhidrida : AGU (mol/mol) yang menghasilkan derajat substitusi tertinggi (0,205) adalah pH 4 dan rasio asetat anhidrida : AGU (mol/mol) 0,3.
4. Reaksi asetilasi dioptimasi dengan meningkatkan rasio asetat anhidrida dan menurunkan jumlah penambahan NaOH, sedangkan reaksi deasetilasi dioptimasi dengan menurunkan rasio asetat anhidrida dan menambahkan jumlah basa atau NaOH.
5. Semakin tinggi derajat substitusi, maka semakin tinggi nilai kelarutannya, namun semakin rendah nilai kadar air, *swelling power*, kemampuan penyerapan air, dan kejernihannya.
6. Semakin tinggi derajat substitusi, maka semakin rendah *hardness*, *adhesiveness*, dan *stringiness*.
7. AKGM yang dihasilkan pada penelitian ini dapat digunakan sebagai pembuatan kapsul pada bidang farmasi.

#### 5.2 Saran

Saran yang dapat diberikan untuk penelitian asetilasi *Konjac* glukomanan adalah :

1. Menggunakan pelarut yang tidak mengandung banyak air karena *Konjac* glukomanan yang bersifat hidrofilik.
2. Menyeleksi dan menganalisis lebih lanjut bahan baku tepung KGM sebelum digunakan pada penelitian yang dilakukan.

3. Menggunakan *thermocouple* pada setiap prosedur yang membutuhkan pemanasan agar temperatur yang diukur lebih akurat.
4. Melakukan pengayakan dengan *mesh* tertentu pada bahan baku agar partikel yang digunakan lebih seragam dan berukuran lebih kecil sehingga dapat memperluas *area* kontak antara bahan baku yang menghasilkan reaksi asetilasi yang lebih optimum.
5. Mencoba jenis variasi lain untuk menghasilkan DS yang lebih tinggi agar produk AKGM dapat digunakan sebagai aplikasi plastik dan kemasan *biodegradable*.
6. Reaksi asetilasi dengan DS tinggi dapat direaksikan dengan menambahkan jumlah asetat anhidrida dan mencoba variasi penambahan NaOH yang optimal.

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