BAB V
KESIMPULAN DAN SARAN

5.1 Kesimpulan

Pada penelitian optimasi kondisi *post-treatment* menggunakan jalur kalsium alginat pada ekstraksi alginat rumput laut coklat, dapat ditarik kesimpulan sebagai berikut:

1. Semakin tinggi konsentrasi $CaCl_2$ akan meningkatkan rendemen natrium alginat secara signifikan. Rendemen yang didapatkan bernilai 6,95-30,7% dan mengikuti model: $y = 5,99 + 38,27A - 0,16B - 14,29A^2$
2. Pada konsentrasi rendah, rasio massa $CaCl_2$/massa ekstrak akan mempengaruhi nilai viskositas natrium alginat sedangkan pada konsentrasi tinggi, rasio massa $CaCl_2$/massa ekstrak tidak memberikan pengaruh yang signifikan terhadap nilai viskositas natrium alginat. Viskositas produk natrium alginat yang didapatkan sebesar 1,48-11,35 cP dan mengikuti model: $y = -3,79 + 10,26A + 9,38B + 1,97AB - 7,05A^2 - 2.69B^2$
3. Pada konsentrasi tinggi maupun rendah, rasio massa $CaCl_2$/massa ekstrak akan meningkatkan nilai kadar abu natrium alginat. Kadar abu yang didapat berkisar antara 18,46% hingga 52,65% dan mengikuti model: $y = 33,3609 - 14,1205A - 15,0160B - 0,9571AB + 14,0974A^2 + 4,4801B^2$
4. Kondisi optimum proses *post-treatment* yang didapatkan yaitu konsentrasi $CaCl_2$ sebesar 1,02M dan rasio massa $CaCl_2$/massa ekstrak sebesar 2,00.

5.2 Saran

Berdasarkan penelitian yang telah dilakukan, berikut merupakan saran untuk penelitian selanjutnya:

1. Penggunaan larutan $CaCl_2$ pada proses *post-treatment* sebaiknya pada konsentrasi dibawah 1,3 M karena penggunaan pada konsentrasi tinggi akan menyebabkan terbentuknya senyawa kapur ($CaCO_3$) yang dapat menurunkan viskositas serta meningkatkan kadar abu.

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