

BAB V

KESIMPULAN DAN SARAN

5.1. Kesimpulan

Dari penelitian yang telah dilakukan selama satu semester ini, terdapat beberapa hal yang dapat disimpulkan. Adapun kesimpulan tersebut adalah sebagai berikut:

1. Penambahan asam meningkatkan *yield* dari *hydrochar* yaitu sebesar 40,3% serta *hard carbon* yaitu sebesar 18,75%. Asam juga membuat struktur *hydrochar* menjadi lebih *amorphous* sehingga dapat memuat ion sodium lebih banyak. Dengan semakin banyak ion sodium yang dapat dimuat, maka anoda lebih mudah untuk menarik elektron sehingga kapasitas baterai meningkat. Asam membuat beberapa partikel menggumpal dan tidak seragam ukurannya. Ukuran partikel cenderung memiliki ukuran yang lebih kecil dibandingkan dengan perlakuan basa dengan ukuran rata-rata partikel *hydrochar* sebesar 5,5 μm dan *hard carbon* sebesar 4 μm .
2. Penambahan basa tidak memiliki pengaruh yang signifikan terhadap *yield*, hal ini ditandai dari *yield* CG-B sebesar 33,4% sedangkan CG-N sebesar 30% dan juga *yield* HCG-B sebesar 17,5% sedangkan HCG-N sebesar 16,25%. Penambahan basa dapat membuat ukuran partikel lebih uniform dan bertambah besar dengan ukuran rata-rata partikel CG-B sebesar 6,6 μm dan HCG-B sebesar 4,7 μm . Keseragaman ukuran meningkatkan kestabilan siklus baterai. Kritisitas pada perlakuan basa lebih tinggi dibandingkan dengan perlakuan asam dan tanpa perlakuan.

5.2. Saran

Saran yang dapat diberikan untuk penelitian dengan judul yang sama di masa yang akan datang adalah sebagai berikut:

1. Diperlukannya pH yang lebih tinggi untuk basa dan rendah untuk asam agar lebih terlihat perbedaan antara kedua perlakuan.

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