

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Dari hasil penelitian ini dapat disimpulkan:

1. Proses *pre-treatment* berupa sonikasi dapat meningkatkan perolehan *hydrochar* sebesar 5 % dengan proses *hydrothermal carbonization* pada 175 °C.
2. Aktivator K_2CO_3 menghasilkan *N-doped carbon* dengan persentase kristal yang lebih tinggi 2-3% dan kandungan nitrogen yang lebih tinggi sekitar 2,5% dibandingkan dibandingkan dengan NaOH. Namun kedua aktivator tidak berpengaruh signifikan terhadap morfologi *N-doped carbon*.
3. Zat aditif urea menghasilkan *N-doped carbon* dengan kandungan nitrogen yang lebih tinggi 0,3-0,6% dibandingkan dengan melamin. Namun kedua zat aditif tidak berpengaruh signifikan terhadap morfologi dan kristalinitas *N-doped carbon*.

5.2 Saran

Berdasarkan penelitian ini, saran yang dapat diberikan untuk penelitian selanjutnya adalah:

1. Menggunakan variasi waktu aktivasi di atas 2 jam dengan temperatur aktivasi yang sama pada aktivasi dengan aktivator NaOH.
2. Menggunakan bahan baku lain yang biasa menjadi bahan baku pembuatan *N-doped carbon* misalnya *Spirulina sp.*
3. Melakukan uji konduktivitas listrik sebagai parameter untuk penerapan material dengan *four-point probe* atau *two-point probe*.

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