

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Dari penelitian yang telah dilakukan selama satu semester ini, ada beberapa hal yang dapat disimpulkan yaitu :

1. Penggunaan H_2SO_4 sebagai zat aditif tidak mempengaruhi perolehan massa, kapasitas adsorpsi, morfologi, dan komponen dari *hydrochar*, namun dapat menaikkan % kristalinitas *hydrochar* yang dihasilkan.
2. Perbandingan massa *hydrochar* dengan KOH 1:4 menghasilkan kapasitas adsorpsi yang paling besar, morfologi yang terlihat paling berpori, dan % kristalinitas yang paling rendah. Namun penggunaan KOH yang semakin banyak akan menurunkan perolehan massa karbon aktif yang dihasilkan.
3. Karbon sulfur yang dihasilkan memiliki morfologi yang menunjukkan permukaan berpori yang tertutup oleh sulfur dan % kristalinitas yang tinggi.

5.2 Saran

Dari penelitian yang telah dilakukan selama satu semester ini, ada beberapa masalah yang didapatkan. Oleh karena itu ada beberapa saran yang dapat diberikan apabila penelitian ini ingin dilanjutkan di masa mendatang yaitu:

1. Penggunaan H_2SO_4 pada proses karbonisasi hidrotermal dapat dicoba dengan jumlah yang lebih banyak.
2. Kontrol temperatur pada *furnace* perlu dicek secara berkala agar *offset* temperaturnya tidak terlalu jauh.
3. Analisis dapat dilanjutkan dengan menggunakan metode EDS untuk mengetahui unsur yang ada dalam suatu sampel dan adsorpsi iodine untuk mengetahui luas permukaan mikropori secara kualitatif, atau analisis luas permukaan dengan menggunakan adsorpsi nitrogen (BET) sehingga didapat kesimpulan mengenai luas permukaan karbon aktif yang lebih konklusif.

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