

BAB V

KESIMPULAN

5.1 Kesimpulan

Kesimpulan yang diperoleh dalam penelitian ini adalah sebagai berikut :

1. $ZnCl_2$ memberikan performa yang lebih baik sebagai agen pengaktivasi karena memberikan perolehan massa karbon aktif dan kapasitas adsorpsi yang lebih besar dibandingkan dengan penggunaan KOH. Karbon aktif yang dihasilkan dengan $ZnCl_2$ dan KOH sebagai agen pengaktivasi memberikan morfologi yang berpori dengan struktur amorf
2. Meningkatkan rasio agen pengaktivasi (KOH dan $ZnCl_2$) terhadap massa *hydrochar* akan menghasilkan perolehan massa karbon aktif yang semakin rendah. Peningkatan rasio agen pengaktivasi juga akan memberikan morfologi yang berpori dan struktur yang amorf dengan kapasitas adsorpsi yang semakin baik.

5.2 Saran

Saran yang dapat diberikan kepada penelitian selanjutnya adalah sebagai berikut :

1. Perlu dilakukan penelitian terhadap pengaruh temperatur maupun rasio massa prekursor dengan volume akuades terhadap karakteristik *hydrochar* yang dihasilkan.
2. Perlu dilakukan penelitian terhadap pengaruh temperatur aktivasi terhadap penggunaan agen pengaktivasi berupa KOH dan $ZnCl_2$ bagi karakteristik karbon aktif yang dihasilkan.
3. Perlu dilakukan analisis dengan metode Brunnauer-Emmett-Teller (BET) untuk mengetahui distribusi pori, volume pori dan luas permukaan dari karbon aktif yang dihasilkan.
4. Saat proses aktivasi di dalam *furnace*, perlu dipastikan agar nitrogen dapat terdistribusi sempurna saat proses pemanasan. Hal ini dapat disiasati dengan memberikan pembatas antar cawan.
5. Analisis adsorpsi metilen biru perlu dilakukan secara duplo atau triplo untuk memastikan hasil uji kapasitas adsorpsi telah mewakili seluruh pori yang terbentuk di dalam karbon aktif.

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