

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan hasil penelitian, maka kesimpulan yang diperoleh:

1. Proses kalsinasi dapat menghilangkan surfaktan PVP yang terdapat pada nanosilika.
2. Nanosilika terkalsinasi memiliki kemurnian mencapai 99,103%, meningkat dari nanosilika sebelum dikalsinasi 98,621%.
3. Fungsionalisasi nanosilika dengan volume 3ml APTES berhasil dilakukan.
4. Nanosilika terfungsionalisasi 3ml APTES menghasilkan %*drug loading* dan kapasitas pemuatan kurkumin yang lebih tinggi daripada nanosilika tidak terfungsionalisasi.
5. Model isotherm dan kinetika adsorpsi yang sesuai dengan nanosilika terfungsionalisasi adalah isotherm Temkin dan pseudo orde 2.

5.2 Saran

Adapun saran yang dapat diberikan untuk penelitian mendatang, sebagai berikut:

1. Perlu dilakukan *pre treatment* tambahan untuk mengolah bahan baku *sludge geothermal* sebelum disintesis menjadi nanosilika agar terlepas dari kandungan logam.
2. Pengujian variasi volume, kondisi operasi dan metode lain dapat dilakukan untuk menghasilkan nanosilika terfungsionalisasi dengan hasil yang lebih baik.
3. Analisis BET diperlukan untuk mengetahui luas permukaan dan volume pori setelah terfungsionalisasi.

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