



BAB V KESIMPULAN DAN SARAN

5.1 Kesimpulan

Kesimpulan dari penelitian “Adsorpsi Ion Logam Berat Kromium (VI) Menggunakan Adsorben Cangkang Telur Kalsinasi” adalah :

1. Berdasarkan hasil analisa FTIR dan EDS ditemukan kandungan kalsium karbonat pada cangkang telur biasa dan kalsium oksida pada cangkang telur kalsinasi.
2. Berdasarkan hasil adsorpsi ion logam kromium (Cr(VI)) dengan cangkang telur kalsinasi dan cangkang telur tanpa kalsinasi, model Isotermal Adsorpsi yang sesuai adalah isotermal Langmuir.
3. Proses adsorpsi menjadi jauh lebih cepat menggunakan adsorben cangkang telur kalsinasi dibandingkan cangkang telur tanpa kalsinasi.
4. Kapasitas maksimum (q_e) yang dihasilkan dari cangkang telur kalsinasi dan cangkang telur tanpa kalsinasi tidak terlalu berbeda jauh (1,501 mg logam Cr/ mg adsorben untuk kalsinasi dan 1,499 mg logam Cr/ mg adsorben untuk tanpa kalsinasi) sehingga dapat dikatakan sama.
5. Semakin tinggi konsentrasi awal larutan kromium yang digunakan maka persen *removal ion* Cr(VI) yang diperoleh akan semakin turun.
6. Pada penelitian ini, variasi massa adsorben pada 90 mg memberikan % *removal* yang tidak berbeda secara signifikan. Sehingga dapat disimpulkan massa adsorben maksimum untuk adsorpsi ion logam Cr VI berkisar di 90 mg.
7. Berdasarkan hasil percobaan variasi pH, didapatkan nilai pH optimum pada pH 3.
8. Kenaikan temperatur menyebabkan proses adsorpsi berjalan lebih cepat namun tidak menghasilkan % *removal* yang lebih baik. Hal tersebut dapat disebabkan karena proses berjalan semakin cepat.

5.2 Saran.

1. Perlu penelitian lebih lanjut untuk mengetahui kemampuan adsorpsi menggunakan cangkang telur untuk logam lain.



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