

BAB V

KESIMPULAN DAN SARAN

V.1. Kesimpulan

Dari penelitian mengenai adsorpsi senyawa Mbl dengan menggunakan adsorben hidrogel alginat yang dimodifikasi dengan antosianin, dapat disimpulkan bahwa:

1. Modifikasi HAlg dengan senyawa polifenol antosianin terbukti dapat meningkatkan kemampuan adsorpsi dari adsorben.
2. Konsentrasi alginat 3% menghasilkan %*removal* senyawa Mbl terbaik yaitu sebesar 70,01%.
3. Modifikasi adsorben hidrogel alginat dengan antosianin dan glutaraldehida menghasilkan %*removal* yang terbaik yaitu sebesar 72,31%.
4. Kondisi pH 11 menghasilkan %*removal* senyawa Mbl terbaik yaitu sebesar 88,12%.
5. Konsentrasi mula-mula adsorbat mempengaruhi kapasitas adsorpsi dari adsorben dengan berbanding lurus.
6. Parameter-parameter adsorpsi isoterm menunjukkan bahwa adsorpsi mengikuti teori Langmuir dengan nilai R^2 yang berkisar antara 0,9243 – 0,9874 yang mengindikasikan proses adsorpsi terjadi secara monolayer di permukaan yang homogen.
7. Parameter-parameter adsorpsi kinetik menunjukkan bahwa adsorpsi mengikuti teori pseudo orde-pertama dengan nilai R^2 yang berkisar antara 0,9920 – 0,9999.
8. Parameter-parameter termodinamika menunjukkan bahwa proses adsorpsi terjadi secara spontan (ΔG° berkisar -3,367 s/d -4,5255 kJ/mol

dan ΔS° bernilai 0,0729 kJ/mol K) dan bersifat endotermis (ΔH° bernilai 18,7539 kJ/mol).

V.2. Saran

Kami menyarankan peneliti yang tertarik untuk mempelajari lebih dalam mengenai penelitian ini dapat menemukan metode sintesa dari adsorben ANTO@HAlg dan mengekstrak antosianin lebih spesifik karena pada penelitian ini yang digunakan masih berupa *crude extract* yang mengandung banyak senyawa aktif lain yang kemungkinan juga berpengaruh terhadap adsorpsi.

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