

CHAPTER V

CONCLUSION

V.1. Conclusion

1. The antibiotic composite from doripenem-clay has been done. The results show that the higher pH of doripenem adsorption, the lower concentration of doripenem is adsorbed. The best condition for doripenem adsorption onto bentonite surface was at pH 3 and the amount was 26.8035 mg/L.
2. After the doripenem adsorbed into bentonite, there are some functional groups of doripenem appears : C-H (1268 cm^{-1}), N-H ($1500\text{-}1600\text{ cm}^{-1}$), C=O (1715 cm^{-1}), N-H (3393 cm^{-1}), S=O ($1200\text{-}1300\text{ cm}^{-1}$) on the surface of bentonite.
3. Doripenem adsorption reach equilibrium quantity in 48 h and fitted in pseudo first order equation. Doripenem adsorption belongs to Langmuir equation model, which was derived based on several assumptions (i.e. surface is homogeneous, adsorption on the surface is localized and each site can only accommodate one molecule of atom).
4. The result of antibacterial showed higher concentration of doripenem made the wider area of free contamination.

V.2. Recommendation

This antibiotic composite using bentonite-doripenem. Both of them are safe for human and also the environment because it doesn't contain ionic silver.

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