

CHAPTER V

CONCLUSION AND SUGGESTION

V.1 Conclusion

The conclusion of this research is the increase of vinyl concentration within cubic mesoporous silica network either for micron size or nano size increase the enzyme immobilization and activity. The MS-V5 has 30% activity compare to the free enzyme, but NS-V5 has bigger activity at 56%. The NS-V5 also has the best stability with maintain the concentration of enzyme in solution around 0.49 mg enzyme/ml buffer and the best reusability with maintain high activity until 80% after two times recycle. This research confirmed the significant benefit from vinyl functionalized NS maintain high performance of cellulase enzyme. We believe that this type of material can be also useful for other biomolecules.

V.2 Suggestion

The next experiment, materials can be modified in other organosilane such as APTES with different concentration and with large pore size in different size.

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