CHAPTER 4

CONCLUSIONS

1. Addition of MTGase at the level of 0.2 - 0.8 units/g effectively improved gel strength of mince from lizardfish, bigeye snapper and white shrimp. The cross-linking formed during setting was dependent upon fish species and was governed by setting condition.
2. Iced storage of white shrimp, bigeye snapper and lizardfish resulted in protein denaturation and denaturation with concomitant loss in gel forming ability. Degree of changes was dependent upon species and storage time. Lizardfish, a formadehyde former, was most susceptible to denaturation and loss in gelation during extended iced storage, compared to other species. Addition of MTGase at the level of 0.6 units/g could improve the gel forming ability. However, gel produced from fresh fish had the higher quality than gel from unfresh fish.
3. Thermal denaturation affected the physicochemical properties of NAM from all species. However, the addition of MTGase was able to enhance the cross-linking of NAM from all species.
4. MTGase could induce the polymerization of NAM irrespective of the formaldehyde modification. Nevertheless, addition of MTGase was not able to polymerize NAM subjected to hydrolysis. Chain length and conformation had therefore the impact on cross-linking efficacy of MTGase.

FUTURE RESEARCH

1. Increase in cross-linking by MTGase of the degraded proteins should be focused.
2. Improvement of gel-forming ability of fish mince subjected to prior frozen storage using MTGase should be conducted.