

CHAPTER V

CONCLUSIONS

Silylbenzoxazine derivatives with different bulky group on benzene ring are synthesized employing aminosilane as a primary amine. The silylbenzoxazine derivatives with more bulky group exhibit low ion extraction percentage due to the difficulty of molecular assembly formation as a result of the bulky group repulsion combining with the long alkyl chain of silane. Silica surface modified benzoxazines are successfully achieved via silylbenzoxazine derivatives and show the ion extraction property for various alkali and alkaline earth metal ions. When silane is coupled onto silica, the benzoxazine shows different ion extraction ability from that of silylbenzoxazine. The silica surface modified with benzoxazine derivatives with bulky groups exhibit high ion extraction percentage which may be due to the loose packing structure of the molecular assembly inducing the high amount of cavity for guest.