

CHAPTER V

CONCLUSIONS

Benzoxazine dimer performed ion extraction ability based on the hydrogen bonding network, electron density, and cavity size induced from the structure of repeating unit. For benzoxazine dimer, with hydroquinone monomethyl ether as a phenol unit, although the electron density should be provided from O atom of methoxy groups, the extraction ability with sodium and potassium picrate was not much different from that of the dimer with para cresol as a phenol unit. This might be due to the hydrogen bonding network establishing in dimer unit. In the case of esterified dimer, where additional lone pair electrons from ester groups are existed, without hydrogen bonding in the structure, the esterified dimer with methoxy groups exhibited significant extraction ability. Cyclic oligobenzoxazine showed no response to sodium, and potassium ions. This might be due to the cavity size which is not suitable for the studied picrate ion.