

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

Conclusion

Polybenzoxazine were successfully synthesized and impregnated with silver nitrate that used as membranes for CO₂/CH₄ separation. TGA thermogramme show that the char yield of silver-impregnated polybenzoxazine increase significantly with silver nitrate concentration. FT-IR spectra show the intensity of the absorption band at 1384 cm⁻¹ increase significantly with increasing the AgNO₃ concentration. For gas separation. 1.0M silver-impregnated polybenzoxazine membranes show the highest selectivity of CH₄/CO₂ because of π -complex formation between silver ions and CO₂.

Recommendations

By considering the gas permeability and selectivity, the future work should be focused on higher separation performance by converting polybenzoxazine membranes into carbon membranes. Other diamines should be studied.