

## **CHAPTER V**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 CONCLUSIONS**

Pd-MCM-48 synthesized via impregnation approach is one of the good alternative catalysts for Suzuki reaction because of its better air/moisture stability and its ease to synthesize and store. The optimal conditions for the synthesized catalysts applied for microwave-assisted Suzuki reaction of phenylboronic acid with 1-bromo-4-fluorobenzene in presence of  $K_2CO_3$  base using DMF solvent were performed at 120 °C for 20 min reaction time, giving the highest conversion of 39.4 and 42.3% when using 3 and 5%Pd-MCM-48, respectively.

#### **5.2 RECOMMENDATIONS**

The future work may consider using different palladium precursors to synthesize Pd-MCM-48. Calcinations of the catalyst in inert condition in order to avoid the PdO formation should also be considered.