CHAPTER V
CONCLUSIONS

Different techniques regarding the phenomenon of burning and the characteristics of coke during its burning are in agreement. The coked catalyst presents two burning zones. The lower burning zone corresponds to the burning of the coke over the metallic function. The higher burning zone corresponds to the burning of the coke over the acid function that is more polymerized. The promoter (Sn) function in the regeneration procedure can be seen from the cyclic regeneration and partial regeneration tests. Increasing the amount of tin assists the migration of coke from the metal to the support according to the TPO result. This phenomenon can be explained by the drain off mechanism. The more the amount of tin added, the more the amount of coke on the metal and on the support occurred. During the regeneration, the coke is mostly removed in 5 minutes and then it is gradually burnt off. Consequently the decoking rate is very high in the first 5 minutes. The higher the amount of tin added, the higher the decoking rate occurred.

The way to select the best catalyst is to compromise between activity, selectivity, amount of coke and decoking rate. Thus the catalyst D_5 which has the Sn/Pt weight ratio of 2.5 should be the best catalyst because it gives the highest activity and the highest decoking rate. Although it gives the highest amount of coke, the selectivity of the coke is the lowest.