This study is based on the current scheme followed by a refinery with available Catalytic Cracking capacity to process new feedstocks such as Straight Run Naphtha and Naphthas from FCC. These feedstocks are of petrochemical interest to produce Ethane, Ethylene, Propylene, i-Butane, Toluene and Xylene. To evaluate the potential of these new streams versus the Cracking-charged Residues, it was performed a detailed chemical analysis on the structural groups in carbons [C1-C12] at the reactor product obtained in pilot plant. A catalyst with and without Propylene - Promoter Additive was used. This study analyzes the differences in the chemical composition of the feedstocks, relating them to the yield of each petrochemical product. Straight Run Naphthas with a high content of Naphthenes, and Paraffines n[C5-C12] and i[C7-C12] are selective to the production of i-Butane and Propane, while Naphthas from FCC with a high content of n[C5-C12] Olefins, i-Olefins, and Aromatics are more selective to Propylene, Toluene, and Xylene. Concerning Catalytic Cracking of Naphthas, the Additive has similar selectivity for all the petrochemical products, their yields increase by about one point with 4%wt of Additive, while in cracking of Residues, the Additive increases in three points Propylene yield, corresponding to a selectivity of 50% (ÄC3= / ÄLPG).

Keywords
Propylene, catalytic cracking, i-butane, ethylene, naphthas, petrochemicals, Residues, ZSM-5.