UOP Advanced MTO Technology – A New Route for the Production of Light Olefins

The UOP Advanced Methanol-to-Olefins (MTO) Technology combines the UOP/Hydro MTO process for the conversion of methanol to light olefins with the Total Petrochemicals/UOP Olefin Cracking Process (OCP) to convert C4+ by-products into additional ethylene and propylene. The overall process provides a cost-advantaged route for the utilization of natural gas, coal or biomass to produce these high volume petrochemicals. Fundamental understanding of catalyst structure-performance relationships and the MTO reaction mechanism have guided the development of this technology. The integration of the MTO and OCP processes provides close to 90% overall carbon selectivity to ethylene and propylene from methanol. The development path that has led to the successful commercialization of this technology over the last three years will be reviewed.