Applied Catalysis and STAX® Modeling for Petroleum Residue Upgrading

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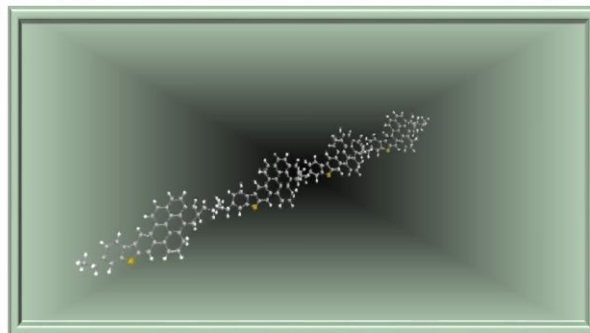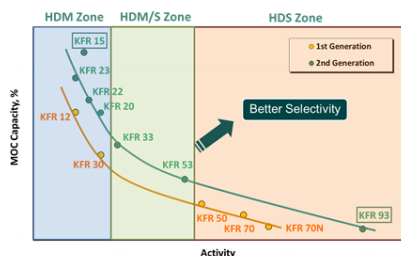** Corresponding author email: hiroshi.toshima@albemarle.com*

Abstract:

For the past 30 years Albemarle and Nippon Ketjen (NK) have worked to continuously improve Ketjenfine Residue (KFR[TM])-grade Fixed-Bed Resid (FBR) catalysts. Latest developments involve state-of-the-art Hydrodemetallation (HDM) catalysts of KFR 15, KFR 16, and KFR 24, and substantially high Hydrogenation portfolio of KFR 93 and KFR 95. These catalysts have been used in many commercial units around the world for RFCC feed preparation, fuel oil production, and MHC applications. Albemarle has developed unique STAX kinetic modeling technologies which enable KFR[TM]-grade catalytic loading optimization and reactor performance design. This presentation introduces catalysis for petroleum heavy oil applications, unique KFR[TM] catalytic portfolio and STAX® kinetic optimizer which can be fully leveraged in the oil refining residue upgrading.
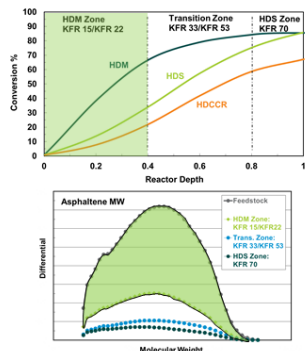
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