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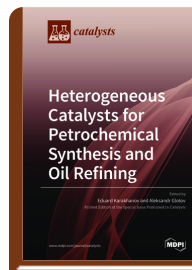
Heterogeneous Catalysts for Petrochemical Synthesis and Oil Refining

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Heterogeneous catalysis is among the major solutions for cost-effective and sustainable industrial application and processing. The design and development of highly efficient and stable heterogeneous catalysts represent an emergent frontier for overcoming energy and environmental challenges. Many industrial petrochemical and oil refining processes are faced with new challenges that can be solved using heterogeneous catalysts.

This book covers the most recent progress and advances in the field of heterogeneous catalysts based on mesoporous composites with embedded halloysite nanotubes covered with ruthenium nanoparticles for exhaustive aromatics hydrogenation, generated in situ and supported on zeolites' transition metal sulfides for the hydrocracking of the pyrolysis fuel oil and n-alkanes isomerization. This book also includes investigations of novel rhodium systems supported on FeCrAl composite for the coupling of pre-reforming and partial oxidation to liquefied petroleum gas processing into syngas. We have collected works devoted to the palladium catalysts based on porous aromatic frameworks and alumina for the hydrogenation of unsaturated compounds (alkynes, alkenes and dienes) and for the selective removal of acetylene from ethane–ethylene fractions.



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