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## Selective Hydroconversion of *n*-Heptane over Pd-supported Zeolites and Pd-containing Hybrid Catalyst

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Hydroconversion of *n*-heptane was investigated over Pd-supported H-zeolite and hybrid catalyst consisting of Pd/SiO<sub>2</sub> and USY. Highly selective hydrocracking occurred over Pd/ZSM-5 whereas hydroisomerization dominated over Pd/USY and Pd/β. Skeletal isomerization occurred before the cracking reactions. The zeolite used and hydrogen spillover onto the zeolite were important in determining the isomerization selectivity. Experiments over hybrid catalysts suggested that close contact and the balance of metal and acidic sites are crucial in determining the activity and selectivity of isomerization and cracking. A reaction scheme based on the concept of hydrogen spillover was proposed.

**Keywords:** [Hydrocracking](#), [Hydroisomerization](#), [Heptane](#), [Bifunctional catalyst](#), [Hydrogen spillover](#)



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