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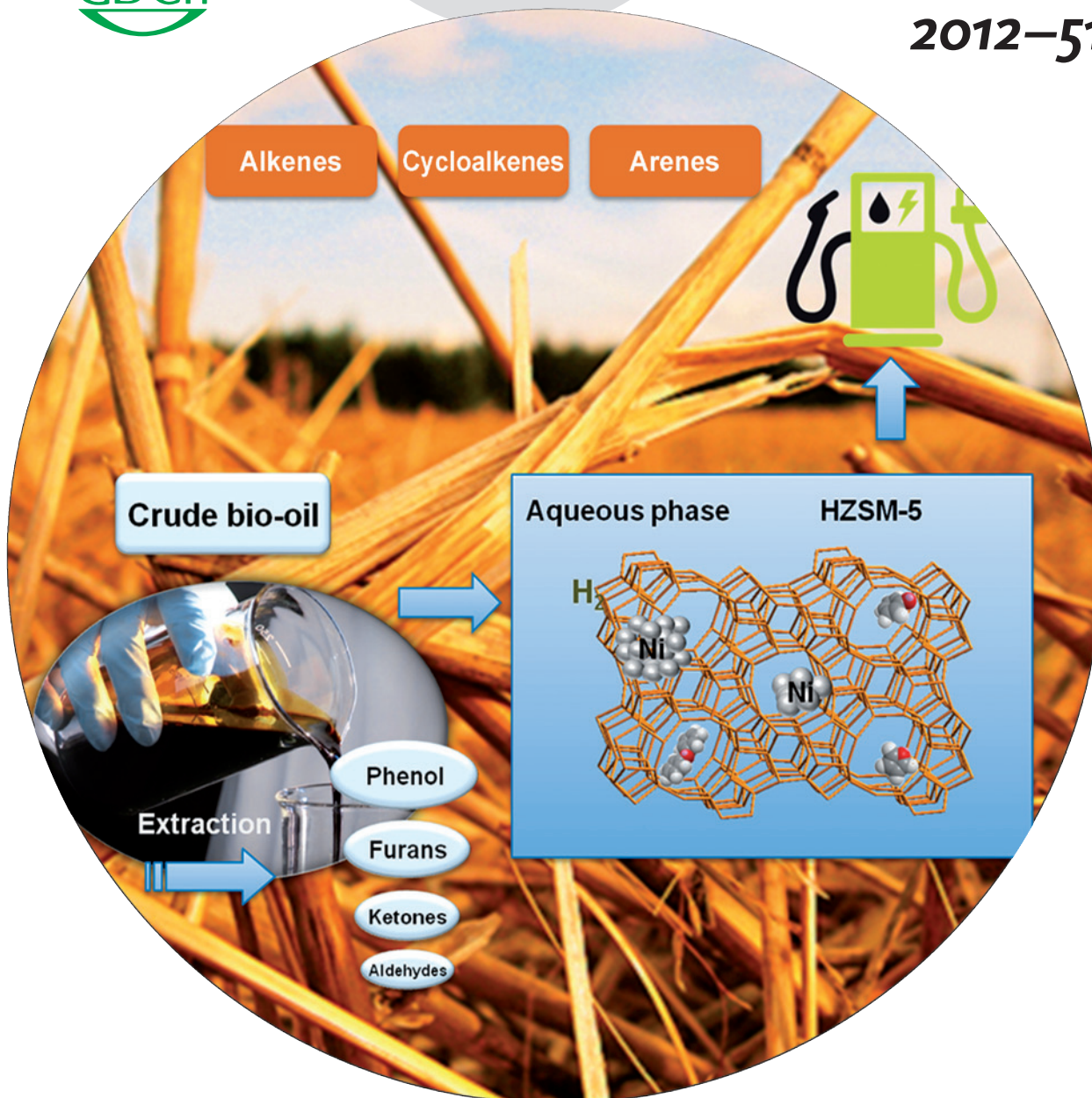
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Methanol Conversion

Review by U. Olsbye et al.

Plant Oil Refining

Minireview by S. Mecking and S. Chikkali

Lithium-Ion Battery

Essay by A. Yoshino

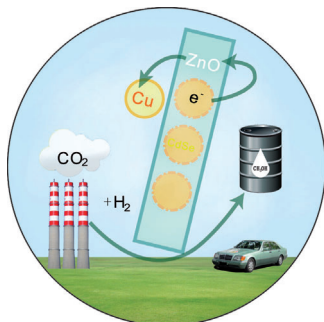
C–H-Activation

Highlight by G. Lavigne

Cover Picture

Chen Zhao and Johannes A. Lercher*

An active, selective, and stable catalyst (Ni in zeolite HZSM-5) was developed to convert a wide variety of C–O and C=O bonds in *n*-hexane-extracted pyrolysis oil into hydrocarbons through a cascade of hydrogenation, hydrolysis, dehydration, and dehydroaromatization reactions. In their Communication on page 5935 ff., J. Lercher and C. Zhao show that C₅–C₉ gasoline-range hydrocarbons are produced quantitatively from extracted crude bio-oil using Ni/HZSM-5 catalysts under mild conditions in water.

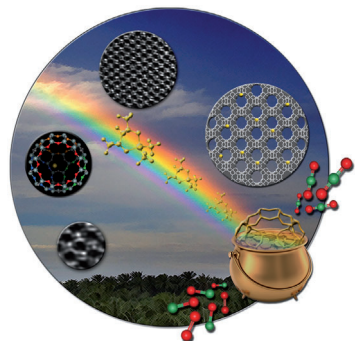
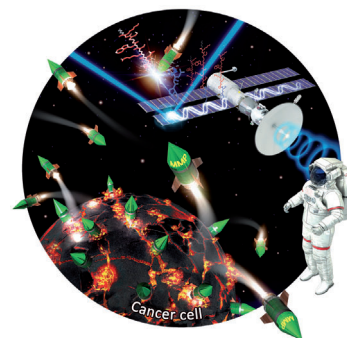


Heterogeneous Catalysis

In their Communication on page 5832 ff., X. Hong, S. C. E. Tsang, et al. observe an increase in methanol selectivity for the hydrogenation of carbon dioxide when the reaction is catalyzed by Cu/rod-shaped ZnO/CdSe.

Biosensors

Active matrix metalloproteinases expressed on a cancer cell surface can be sensed by a resonant cantilever device functionalized with peptides, as J. Yang, D. S. Yoon, T. Kwon et al. report in their Communication on page 5837 ff.



Gold Catalysis

In their Communication on page 5842 ff., B. C. Gates et al. identify the catalytic sites of a gold catalyst dispersed in a zeolite by aberration-corrected scanning transmission electron spectroscopy.