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The book concludes with a chapter on future trends and energy challenges for the latter half of the 21st century. With its multidisciplinary approach this is an essential reference for academic and industrial researchers in catalysis science aiming to design more sustainable and energy-efficient processes.

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4 1 Introduction: Green Chemistry and Catalysis Fig. 1.1 Atom efficiency of stoichiometric vs. catalytic oxidation of an alcohol. part of chemical processes is, in principle, possible.

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for energy-efficient and sustainable routes for the production of basic chemical feedstocks and value-added chemicals, as well as for minimizing the production of unwanted byproducts.

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