

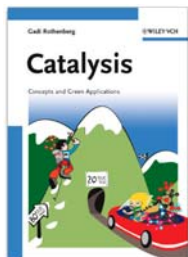
### Catalysis: Concepts and Green Applications

Lecture slides for Chapter 1: Introduction to catalysis, green chemistry, and sustainable development.

Most of the graphics here were drawn using PowerPoint and Chemdraw (version Ultra 9.0).

Feel free to modify and/or add your own pyrotechnics.

Please send any feedback to [feedback@catalysisbook.org](mailto:feedback@catalysisbook.org)



Catalysis/ Rothenberg, ISBN 978-3-527-31824-7.

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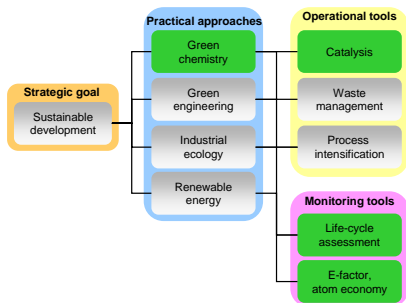
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### The big picture



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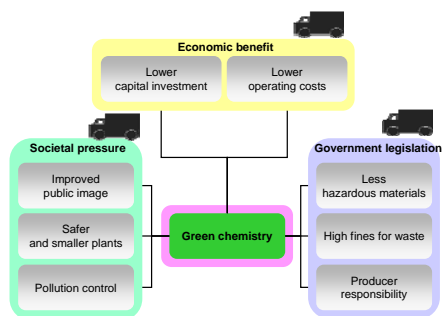
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### The drivers of green chemistry



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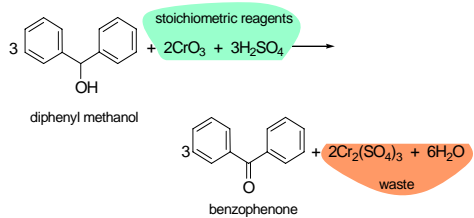
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### Oxidation of diphenylmethanol to benzophenone



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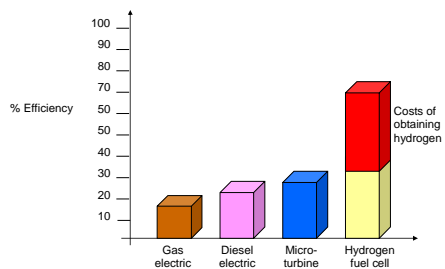
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### Relative efficiency of various engine types



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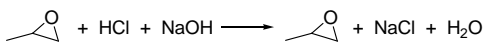
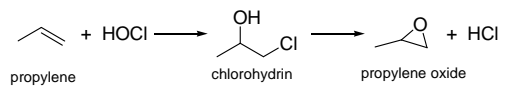
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### The traditional propene oxide route



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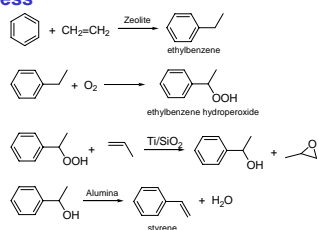
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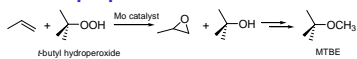
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### The SMPO process



### Catalytic oxidation of propene



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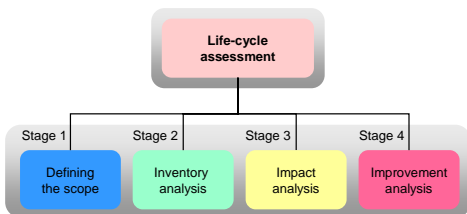
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### The four stages of life-cycle assessment



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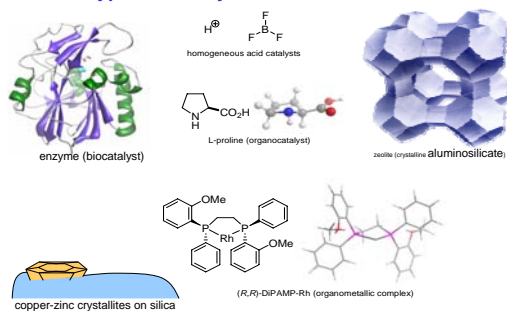
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### Different types of catalysts



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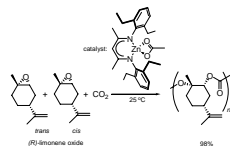
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Figure 1.12



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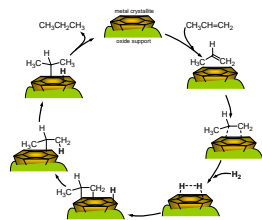
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Figure 1.13



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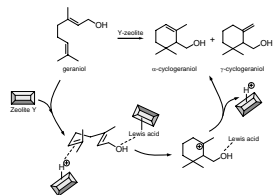
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Figure 1.14



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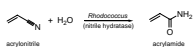
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Figure 1.15



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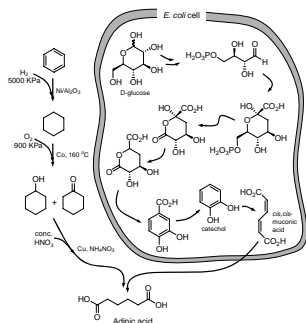
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Figure 1.16



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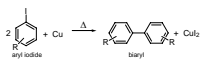
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Figure 1.17



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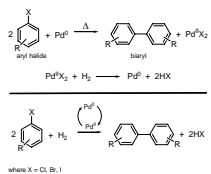
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Figure 1.18

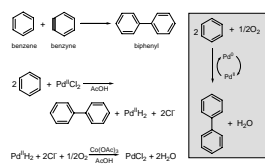


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Figure 1.19



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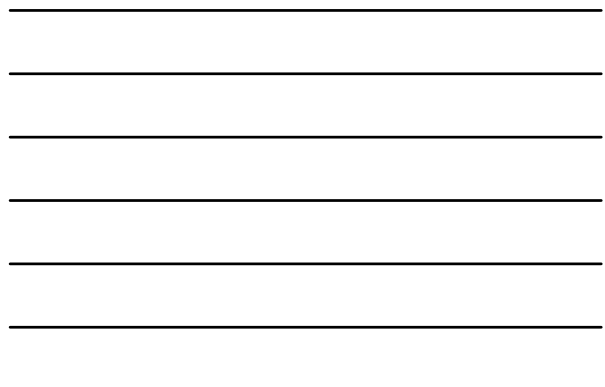
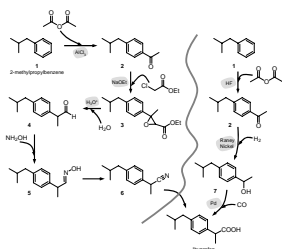


Figure 1.20

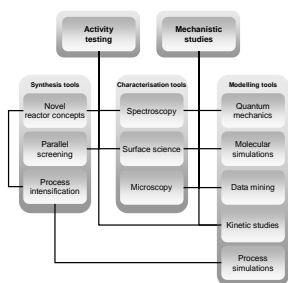


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Figure 1.21



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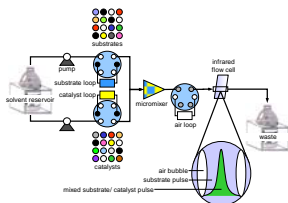
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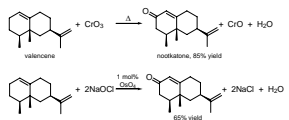
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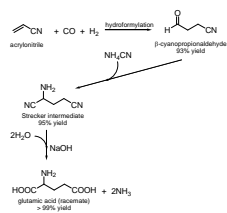
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Figure 1.27



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